The Man On The Wall

by CaseyStar

Summary

Yesterday Bucky Barnes was a specialist member of Ares 3.
Now he's the lone man on Mars, with no food, no communication, and no way to get home.
He's a little fucked off about it.

Notes

See the end of the work for notes.
My name is James Buchanan Barnes.
I am going to die.
In a way, I already have.
I am – was a member of the Ares programme for the exploration of Mars, mission Ares 3, ID number 32557038.
Rumours of my death have been greatly exaggerated.
Rumours of just how fucked I am, however, are not.
I’m so fucked.
I, Bucky Barnes, am fucked.
I’d apologise for the language ‘cos my ma raised me properly, but I’m a little busy getting totally fucked over by a planet to care too much about propriety.
I’m stranded on Mars.
Mars.
The planet.
As in not Earth.
All alone.
On Mars.
No ship.
No crew.
Just me.
For a reason I’ll explain in a minute, I have no way of communicating with Earth, or the ship my crew is in so everyone thinks I’m dead and I have no way of telling them otherwise. I also have no way of leaving the surface or returning to my ship.
So, like I said, I’m basically fucked.
Fuck.
They’re going to tell Ma and my sister I’m dead.

For all I know, they’ve already been told. It’s protocol. Director Fury hasn’t had to make a call like that in over a decade, and now he’s making it to my family, to my girls.

Ma, I’m so sorry. Don’t blame the crew. Please. It wasn’t their fault. Becs, I know you didn’t want me to take the place on the mission and I know I didn’t listen to you and I’m so sorry.

**Log Entry: Sol 6 (3)**

I’ve never pictured the moment of my death. I guess if I had, I’d have imagined something soft and gentle, something like being ninety years old and in a bed, surrounded by those that loved me and there’d be no pain, no agony, just slipping away between one breath and the next.

It wouldn’t have been this.

It wouldn’t be alone and terrified, bleeding and in pain. It wouldn’t be hard. It wouldn’t be like this.

I keep finding myself having these stupid ridiculous thoughts – worry over who was going to untangle the Christmas lights for Ma, idly thinking who’d move into my apartment and what new memories they’d make, regret that I’d never figured out how to make the perfect pancake like my Pop did.

Wondering If I’ll be missed…

Dying is easy. Isn’t that the saying?

Fuck that shit. Dying is anything but easy. It’s painful and it’s long and it’s the hardest fucking thing in the world and I think I’m going to and I don’t want to. I’m not ready.

I did not come to Mars to die.

I don’t want to die here.

I don’t want to die alone.

**Log Entry: Sol 6 (4)**

Okay, I’ve had my first tantrum and pity party.

I’ve sworn a lot and threw some not-too-expensive or necessary equipment around, which hurt like fuck but did make me feel better for all of 1.3 seconds even if none of it broke, which would have been way more satisfying.

I guess you might be wondering what the fuck I’m doing wasting what will probably be the last days of my life sitting in front of a fucking camera and talking to myself, given how I don’t know if anyone is ever gonna find this.
The only answer I can offer is because these might be my last words. These might be my last days and I’ve still got so much to say. Because I need to leave my family something. I need to know that I tried to tell them I love them, that I tried to come back to them. Because if I don’t leave this proof, my crew will never have the chance to know they didn’t do anything wrong. Because I’m fucking terrified of forgetting shit and nobody knowing it and these logs will be my memories, anchoring me. Because I need to pretend someone will find this and it’ll be seen and I’ll have made a connection, even long after I’m dead.

Because I’m not fucking ready to go.

Shit, maybe it’s just because I was picked as Media Relations expert for the mission and I’m too fucking used to talking into a camera at this point.

Your guess is as good as mine.

But I don’t know how long I’m gonna last or what state I’ll be in pretty soon, so some of the shit I got to share ain’t gonna be pretty.

Just a warning.

Now I guess I’ll try and explain what happened. I say try because I was unconscious for a large part of it so I’m basically making an educated guess, but I’m a scientist, we’re allowed to do that shit. It’s a called a hypothesis, and this is my Mars Hypothesis.

I want to point out something first, before I do the whole ‘48 hours earlier’ shit.

It was not Commander Rogers’ fault that I got left here. It was not the fault of the rest of the crew.

We clear on that?

It was not the crew’s fault.

It wasn’t anyone’s fault.

Actually, I’m inclined to blame Mars. Fuck Mars, it’s all this planet’s fault. This is what you get when you name a planet after the god of war. It attacks people for no reason. All I was doing was trying to leave, for fucks sake.

The crew couldn’t have known I was alive. They did nothing wrong in following procedure, just like Philips drilled into them time and again. Just in case anyone does actually find these logs, I want to make that clear.

The crew should bear none of the blame for this.

Fuck, I hope someone does find this, because I know my crew too well: they’re going to be torn up with guilt over what happened and they’ll blame themselves for the rest of time unless someone sees this.

So how did it happen?

We were six days into what were supposed to be the greatest thirty-one days of my entire life. Well, really the greatest year of my life, but 31 days were going to be spent on the surface of Mars. Six days during which I couldn’t believe we were all finally here after so long dreaming about it and training for it and stuck in the fancy tin-can that is Valkyrie for six months.
Finally, I had the thing I’d been working towards for as long as I could remember. As a kid, anything to do with flying and space fascinated me. I grew up with those stickers - you know the ones that glow in the dark - stuck on my ceiling. My dad did ‘em for me the time I asked for a telescope for Christmas. He’d never have been able to afford a telescope but he could still give me stars to looks at. My ma told me, years later, that he planned ‘em all out, went to the library and got a buncha books so he could make sure he stuck ‘em up in proper constellations and everything, covered the whole fucking ceiling in them, and in the corner over by my door, was a small round sticker that was Mars. I’d stare at them for hours, dreaming about being an astronaut, about living in a future that would surely have flying cars, and I really wanted one of them too – preferably a convertible and bright red. Those stickers are still on my ceiling at my ma’s apartment, my signature right underneath Mars and the date we’d arrive at the landing site.

It took me twenty-five years, and there I was walking on the surface of another planet.

No kid in any candy store has ever been as fucking happy.

Do you know what it’s like to grow up a complete space geek, to get beat up in school for it, and actually end up standing on another planet? Do you have any idea what it’s like to work for something for twenty-five years and actually get it?

It’s unbelievable.

I’m a nobody. Just some punk kid from Brooklyn whose name isn’t gonna be in any record books, though I guess maybe it is now as the first person to ever die on another planet. I come from a regular household, I’m pretty smart but there’s a whole heap of people smarter. Right now I’m hoping they’re smart enough to figure out I’m alive and get me home, but let’s not dream too big, huh?

What I’m getting at is that I’m just Bucky Barnes, a normal guy that had a dream, just like everyone else in the world. I got a ma and a sister. No dependents, no other relatives, no partner. I worked my ass off at school in order to get a scholarship to NYU ‘cos no way could I afford it otherwise after my dad got sick and what savings my parents had was wiped out on his hospital bills, and I wasn’t gonna let my ma try to help pay my fees. I graduated first in my class, which yeah, I guess is kinda good, but there’s thousands of people that do that across the country. I got into a Masters program and then a PhD. I drew the attention of NASA. All of which sounds extraordinary but lemme tell ya one thing:

Bucky Barnes is pretty damn ordinary. There’s nothing special about me that ain’t special about millions of other people.

Only thing even vaguely special about me is this; I’m alone on an alien planet, and all I had to do was get left here. I’m the only person that has ever lived, out of the tens of billions of people to ever exist, alone on a planet.

Earth or otherwise.

Which is a mind-fuck and a half, let me tell you. One I’m trying really hard not to think too much about, to be honest. Not right now.

I guess you guys already know the other members of the crew, what with how this little clusterfuck is gonna dominate the headlines for a while – hey, I’m gonna die up here, lemme be grandiose about my death being world news - but lemme introduce ‘em anyway. I got nothing but time.

I, and the rest of the crew, are part of the Ares programme. Ares 3 to be precise. Which means two
other Ares missions got here first so public interest in the project was way lower than it was ten years ago, though pretty good still what with mankind walking on the surface of another planet. It’s the same thing that happened with the Apollo missions and then the Shuttle missions; space travel, despite being really fucking cool, has become almost pedestrian. I bet y’all could name every member of Ares 1, but you’d struggle for my name. I mean who remembers the names of the guys that arrived on the Moon the third time around?

Okay, I do but I’m a geek. Big fucking surprise. But I dunno how long it'll be before these logs are found, or even if they will be and maybe the people viewing it ain't familiar with the Ares 3 mission. Or maybe the viewers won't be people at all.

Alien space pirates, man. They're out there.

Anyway...

Don’t worry, I don’t hold it against you if you’ve never heard of me, though really, c’mon, I’m gonna be the first person to die on another planet, that should totally be taught in history class. Maybe even physics.

So maybe I better do roll call.

Commander Rogers was, is, our leader. Though his rank is technically that of Commander, we all tend to call him Cap; before he became part of NASA after leaving the Army, he went behind enemy lines, alone, and rescued some four hundred people, a mix of Army personnel and civilians that were being kept prisoner. When the story leaked to the press, because of course it did, he was dubbed Captain America by most of the media. He was the blond, blue-eyed boy with a jawline that could cut glass, so it’s no wonder why the press loved him. He was embarrassed by the press attention, can you believe that? Absolutely mortified, and it was part of what caused him to not re-up. He wanted to serve his country, but after he did, his country wanted him to be a poster boy and not a man. So he found a new way. He traded his gun for a microscope instead, working on his PhD at Caltech, connecting with the JPL. He’s the most upright man you could ever meet, working on his PhD at Caltech, connecting with the JPL. He’s the most upright man you could ever meet, which sometimes translates to there being a stick up his ass the size of a sequoia, but he’s genuine, smart as fuck and the term righteous fury was probably invented for him. He’s an Army man through and through even if he is out, double specialty in logistics and geology, a lover of Big Band music and a terrible, but truly enthusiastic dancer. He’s the kinda guy that helps old ladies across the street and carries their shopping all the way home for them. Once he was chosen, he had a hand in selecting the rest of his crew. He read my file and personally tracked me down, bought me a scotch, said he wanted me to go with him to Mars.

You can imagine what my response was to that.

I was really looking forward to asking him out when we got back. Can’t tell you how many lectures we had before we left Earth about how we weren’t to pursue inter-personal relationships during our mission. Space flight is dangerous and fucking up relations with your fellow astronauts when you’ve got a year or so stuck aboard the Valkyrie with nowhere to go, could lead to difficulty.

Everything you’ve learned about my luck so far oughta clue you in on just how royally screwed I was that I met the guy of my dreams, a stupidly great guy, and instantly NASA stamped a big old ‘hands off’ across his ass.

I shoulda taken the hint, grabbed a handful of said ass in one hand, and handed in my resignation with the other. I’d be home safe on Earth and be waiting for my super-hot fella to get back from his inter-planetary roadtrip.
Never been good at waiting. Shitty at being the one left behind at home, sitting on his ass. First time ever though, and only for him, I was willing to give it a chance. Shoulda listened to my gut, and my sister, and kept my feet firmly on the ground.

But I was supposed to have the time to have both, to travel to Mars and win the heart of the fair prince. Big shocker that I was wrong. I guess if these logs are ever found before the rest of my team-mates are dead, he’ll know just how I feel about him. And I do pal, I do a lot.

Truth be told, I don’t think NASA cared so much about a relationship causing something to happen to us if it turned sour so much as they worried we’d damage the Valkyrie because we were too pissed off or upset to do our jobs properly. Valkyrie is the ship we use to leave Earth orbit and travel to Mars. It’s the single most expensive thing ever built – seriously, we’re talking hundreds of billions of dollars here, and for like a week I was shit scared of breaking anything - so we’ve only got one of her, and we take real good care of her. She’s taken every Ares crew to Mars and is set to do the same for missions 4-5.

Assuming my ‘death’ hasn’t put the last nail in the coffin on those missions.

Which would, ironically enough, kill me, because my only chance of survival is hitchhiking with the Ares 4 crew when they get here.

I wonder if I’m going to get a Wikipedia page over this – ‘Bucky Barnes was the only astronaut to lose his life on Mars in service of his mission’. Maybe a Bucky Barnes memorial day. Or a plaque on some wall somewhere. Something my family can visit in lieu of a grave.

Awesome.

After Rogers, next in command is Sam Wilson. Graduated first in his class from the Air Force Academy, and led the Falcons to a national championship title in boxing while he was there. Like Rogers and I, Sam is a fellow New York son, which also means he can be, like Rogers and I, a total Grade-A asshole. He liked to wake me up with bird calls. Through a loudspeaker. Pretty certain he taught his pet bird to swoop at me and he can deny it all he wants, but he knows it’s true. But I’m getting off track. Sam always knew, like most of us, that he was gonna join NASA, but first he served as a Pararescue, going into some of the most dangerous places in the world, on purpose, to save other people. Yeah, yeah, stop swooning. Sure, he rescues cats from trees, and unicorns come to life in his wake and he saves people, but I’m serious, he’s also a complete dick, and that’s coming from someone who sorta loves the guy. His job on the mission was piloting our initial ascent vehicle – basically how we got to the Valkyrie, piloting the Valkyrie to Mars, and then both the Mars Descent Vehicle and the Mars Ascent Vehicle and then home again. He is the only member of the crew that isn’t double specialty and is essentially the most important one of us all. Which he may or may not remind us all of as often as he can. Because he’s a mensch like that. But it’s true.

No pilot, no get home, not guaranteed anyway. Valkyrie can be flown from Earth, but we’re a long way from Earth; it takes a message or command from Earth twenty minutes to reach us, and if in the time since the command was sent from Houston, something changed, we’d be fucked. Autopilot is all well and good, but a pilot is better, so Houston taking the wheel is a last resort type-a thing. We can get by without just about anyone but him.

They can get by without me.

We double up on specialties for a couple reasons – we can conduct more tests and investigations with fewer people being sent, and if something happens to one of us - ha ha fucking ha - someone else can pick up the slack.
If NASA thinks I’m doing six people’s worth of experiments up here to pass the time before I, y’know, die, they can kiss my ass.

While not technically his specialty or even an official duty, Sam acted as our confidant and strong shoulder at times; space travel, being stuck with the same five faces and nowhere to go can get a little claustrophobic even if you do get along as well as we all do. The guy is fucking awesome and if he’s on your side, you could damn well storm the gates of Hell and he’d be right there with you. I could really do with him being here right now.

I could really do with the MAV being here, it comes to wishing for shit, but I’ll get to that in a minute.

Natasha Romanoff is the computer specialist and takes care of the communications array as well as keeping an eye on the reactor that powers Valkyrie's engines. She’s a whizz on the damn things. Russian born but took American citizenship when she was a kid, and fiery as any red-head you’ve met. Calm, cool and collected at pretty much all times but don’t let that fool you; even if she doesn’t show it, even when she looks bored as fuck she’s always thinking and evaluating all the angles. She’s gorgeous too, a real looker – her official poster outsold the rest of the team combined, even with the ridiculous sales Thor's had and that should tell you something. Natasha is so gorgeous that even in a freaking orange and white space suit, guys, and I assume no small number of gals, wanted her up on their wall– and she's as natural a flirt as I am, but she made it pretty clear early on that being the only woman on the mission wasn’t going to make her the mission-bike well before NASA started its ‘No Fraternisation, We Mean It’ lectures. Didn’t stop us flirting pretty hard, but it was only for fun. She knew I wanted Rogers, and she definitely has her eye on Barton. But like me, she wasn’t gonna do a damn thing about it until we got home.

I hope she does. Someone on the crew deserves to get what they want.

But she’s way more than just a beautiful face; she holds dual degrees in Mathematics and Computer Science. From MIT no less. Won NASA’s largest hackathon when she was only seventeen. When she was announced on the crew, two camps on the internet exploded. One camp declared her to be representative of NASA cowing in front of ‘feminazis’ and putting a lingerie model on board – yeah, she freaking modelled in college to pay for it, that’s how gorgeous she is, but guess who graduated college without a single dollar of debt? - when a man would be a far more ‘reasonable’ choice.

Fuckin’ morons.

The other was a group that started a ridiculous rumour that Nat was in fact a Russian spy, collecting information for a secret Soviet space programme that had been licking its wounds since the US became the first nation to put men on the moon. That she’s an expert in about eighty martial arts, and is fucking lethal if she wants to be probably just looked like evidence to those idiots.

I really wanted to dare the idiots from either group to say it to her face. I once saw her break a guy’s nose after he pinched her ass, so I’d love to have seen what she would have done to some fuckhead who dared to utter the term feminazi in her presence. She was incredible at our various press conferences. One reporter asked her what it was like to be the sex object astronaut and she just took him apart with five words and the fliniest expression I’ve ever seen on anyone. The guy just about shit his pants. You don’t fuck with Natasha.

God I love that woman.

The rest of the world - the, for a greater or lesser extent, sane people – considers her to be an incredible role model to young women, a role in which she really started to thrive. Her name was always destined to go down in history – she’s the first woman to ever step on the surface of Mars,
and as such she’s a real beacon of hope for little girls the world over, though I know she doesn’t feel she deserves to be looked up to.

There’s stuff in her childhood, bad stuff that she doesn’t talk about and I don’t ask, but receiving letters from young women around the globe, hearing the words of countless young women that were inspired to pursue a career in STEM subjects regardless of what others told them they should want to do because of her, because of women like her…that hit her pretty fucking hard right where it hurts.

She’s fucking awesome.

Her closest friend is Clint Barton, our mission doctor, and the first astronaut – from any country – to be hard of hearing and go into space. There was an incident when he was an intern, lost the hearing in one ear. To look at him you’d never trust your well-being to him; he’s generally got a band-aid, or three, slapped on somewhere, trips over his own feet, and mainlines coffee, a habit he shares with Natasha. The Valkyrie has a top of the line espresso machine on board installed just for Ares 3, I’m not kidding, because we all petitioned for it. None of us wanted to see Barton or Romanoff un-caffeinated. However, we could all do without him drinking straight from the pot like the animal he is.

Damn good guy though, even with his shitty taste in music and love of cheesy Kung-fu movies, and if you ask real nice, he’ll even show you his Olympic gold medal. But be sure to ask to see the real medal, not the one he got tattooed down…well, you can guess where it is. It says a lot about him that he wasn’t even drunk when he got it. It was on purpose. He’s the first Olympic gold medallist in space and the first to walk on Mars. He is also our EVA specialist and biologist, with his interest being largely in musculoskeletal alterations and the effect of deep space travel. For such an idiot, he’s a really smart guy. He’s just real good at hiding it, though I dunno why he bothers.

Could really do with Barton being here too, but I’ll get to the reasoning on that in a second. I got more introductions for people who ain’t stuck here with me to make first.

That just leaves Thor Odinson. While the rest of us are American, Thor is our foreign exchange student. He’s a Norwegian giant built like a freakin’ warrior Viking that had most of the people involved in this mission swooning. If I’m honest, he had much of the world swooning, but bad luck for them, ‘cos he’s married and utterly devoted to the love of his life whom he met while we were all Ascans. Gotta hand it to NASA, its real good at getting people together like some sort of eHarmony shit. Thor’s wife, the equally ridiculously gorgeous Doctor Jane Foster, was on the short list for selection for Ares 3, an attractive prospect as one of the world’s most pre-eminent astrophysicists, as well as holding a medical degree. After he got to go into space and she didn’t, piping her to the post as team astrophysicist with his superior knowledge of chemistry, I bet she’s gonna be after a seat on Ares 4 even more than ever. Maybe I’ll even get to see her again when she saves my damn life.

Thor is our resident chemist with a side job in astrophysics with Masters degrees in both and a doctorate in chemistry, and acts as the crew’s navigator. Before he was selected as an Ascan, he spent six months at the ass end of the world performing research into the ice cores of Antarctica. I don’t pretend to know what the fuck he was doing down there, but I’ve seen photos of him in his cold weather gear, and he looked like a freaking ice giant. I have more chance of surviving the next four years than I do of understanding all the shit he was meant to do up here. Maybe I’ll even read his notes, try and better myself. Seriously, what the fuck is chemistry? I know it’s important and all, but fuck me man, his notes are insane.

Chemistry is a bitch and I will maintain that until my dying day.

Which, hey, might be today!
In case you’re wondering, or haven’t read the no doubt copious amounts of newspapers that are gonna hold my obituary, my specialties are mechanical engineering and botany. I’m the fix-it man who spends his spare time talking to plants. And no matter what Wilson tells you, I do not coo at them, I just encourage ‘em. Unlike how he gets around birds. Try to listen to him talking to Redwing with a straight face, I dare ya. You’d think the hawk was his baby. Maybe, just maybe, I sing when I’m in my lab, but who doesn’t when they’ve got their music going? Anything Barton tells you about a playlist I made special for my plants with show tunes and classical is a complete fucking lie.

I guess I sound like the nerdiest of nerds compared to the rest of the crew, but don’t go thinking I’m some sorta wimp. I was a fucking National F-class champion and if the science thing hadn’t worked out, I’d a jointed the army. All of which means I can kill you from a long way away. A long way away. Don’t think it’s gonna help me out here too much though – no elk to bring down for a little BBQ.

But back on topic, the mechanical engineering part might well save my life if I can figure out how to survive for the next four years. Part of my job was the maintenance of all the machines and arrays that are designed to keep me alive. We were only expected to be here for 31 sols. Now NASA isn’t stupid, the machines aren’t just going to kaput on sol 32; in case of emergencies the majority of the devices up here are designed to continue to function well past a month, but nobody ever expected them to need to function for four years. Which, given their price-tag is a real shame. Who spends that much money on shit they’re only gonna use for a month? Oh, right, us. Even with me to care for them, and the truly exceptional amount of spare parts that got jettisoned up here with us I got no idea if the shit up here I rely on is gonna last long enough. If I didn’t know these machines inside and out I’d never be able to maintain them for that long. Thankfully, I’m intimately acquainted with every aspect of every complicated, life-giving contraption up here. If I wasn’t, I’d be dead the first time one of them broke down.

After the ridiculous turn of events that left me here, my new home could use some serious spring cleaning and I gotta be the one to do it alone, with a busted arm. Spruce up my castle, make it liveable and all my engineering skills are going to be put to the test.

However, my other speciality, the botany? I’m thinking not so much with the being helpful while I’m up here. It’s not like I got sent up here with loads of seeds that’d grow useful shit like food. I got seeds for the hardiest plants around.

Fern.

You ever tried eating a fern?

Pro tip: don’t.

No really. Don’t. I’m freaking serious.

Okay, you can eat some ferns, but only in the fiddlehead stage. Yeah, I said fiddlehead in an actual sentence. All that means is the stage of growth when the fern is unfurling and looks like the head of a fiddle. Or a violin. Or viola. Or cello…that’s not the point. Not all ferns are edible even in this young stage, but a few are. They’re even considered a gourmet vegetable in some parts of the country. Then again so is Cheez Whizz.

But none of that matters because a) none of the species I have with me were chosen for the edibility and b) even if they were, they’d never be enough to sustain me. I am not a deer.

As you can imagine from the whole, ‘the team can survive without me’ schtick, I was the lowest guy
on the team. Ya know, at school I was always picked first in gym, but up here, little fish big pond I guess. Botanists are not really the rockstars of the astronaut world. Go figure. I was just thrilled to get on the fucking crew, I didn’t give a shit what rank I had. Which was good because I might as well not have had one.

The only way that I was ever going to be the leader, or the guy in charge was if I was the only one left.

Oh wait, I am.

Leadership sure fucking ain’t what it’s cracked up to be, lemme tell ya. Rogers can keep it.

I guess in case these logs are found, I’ll make good on my promise and let ya know how I got myself into this shit-show. First, I’ll give you the Cliff Notes of space travel.

We use a shuttle like vehicle to get into Earth orbit and dock with Valkyrie. You run a million and one simulations of that and you think you know what it’s gonna be like.

You don’t.

I remember a rollercoaster on Colney Island I loved as a kid. Initial ascent is kind of like that crossed with a tumble dryer and a…I don’t even know what. It’s only something like 15 minutes until you enter low orbit and the OMS cuts off, but they’re the longest 15 minutes of your life. They’re worse than my French oral exam in high school and up until that moment I thought I’d go to my grave with that being my worst experience.

Don’t try and pretend that I’m exaggerating. French was not my thing, which made my obligatory backpacking across Europe tour with a bunch of guys from college an awkward and embarrassing series of events. There are many places I can never return to after translational fuck-ups. It was that bad.

Ascent?

Way. Fucking. Worse.

Which you could probably guess from the fact that you are essentially strapped on top of 1.7 million pounds of various rocket fuels to fuel the OMS and SRBs. So we’re basically strapped into an immense unexploded bomb that is going to shoot you into the atmosphere at a velocity of 28,805 kilometers an hour.

Let me put this into perspective for you; that’s over a 1/3 as fast as the Earth rotates the Sun. Do you have any idea how fast that is? No, of course you don’t because the human mind can’t really comprehend that shit. 28,805 kph is really fucking fast.

I won’t lie, when those SRBs were lit, and there was no going back, I was dangerously close to pissing my pants and ludicrously happy about having to wear an MAG. Maximum Absorbency Garment is the fancy term for an adult sized diaper that makes you feel super fucking ridiculous and trying not to look like you’re missing your horse when you walk towards the shuttle. The moment your image is being beamed across the globe - in fucking slow-motion no less - as you walk the gangplank into the shuttle, and you’re waddling along hoping nobody can tell you’re wearing a diaper. Top Gun never had to put up with that bullshit. Not to mention the fear when the nurse handing it to you – which a smirk - tells you it can absorb up to two litres of blood, as well as urine, if necessary. As a guy, I was a little scared as to why the nurse thought I’d need that little perk of the pants. If ascent was gonna make me bleed from anywhere, I really hoped it was gonna be the nose
and not the ass or, God help me, my dick.

I really wasn’t looking forward to the return trip; nobody should travel at 28,805kph an hour towards a hard surface. The last thing I’d want would be to become one with a motherfucking crater. I might actually have ended up discovering just how absorbent the MAG really is.

Now I’ll probably never know.

Once you’re up on Valkyrie, and no longer wanna puke your guts up – which takes a while and Wilson was five seconds away from getting my fist in his face with all his smug ‘I eat 5G for breakfast’ laughter, and his patronising claps on the shoulder to remind me to enjoy the beauty of being able to watch a sunset or sunrise every 45 minutes- another four unmanned missions bring you everything you’re gonna need to get through the next year; supplies, fuel, our equipment. You name it, and it got sent up, which of course meant we had to unpack four orbiters worth of stuff. Imagine you had to move house four times in three days. That’s how much fun that was. Even having limited gravity so the boxes were much lighter didn’t make it any less of a fuckfest. Ares missions take over a year and we gotta have everything we need with us in case shit goes sideways. We even got a 3D printer to try and make something if the one we got breaks but it ain’t infallible and really only helps with making a tool we need, not a replacement part for Valkyrie. We can’t just run out to Home Depot is what I’m trying to say. Something breaks and we ain’t got the shit to fix it, we die.

Guess how thrilled I am that I’m the thing that broke.

After we’re all stocked up and stowed away, it’s Mars baby. Sam points her where she needs to go – and yeah, it’s way more scientific than that but I’m the Bob the Builder on this mission, not the flyboy – and opens up the engines and away we go.

Valkyrie has massive ion engines powered by a nuclear reactor - that for reasons that escape me Thor, and now the rest of us, refers to as the Tesseract - that ionizes xenon propellant via electron bombardment. The positively charged ions migrate to the aft-end of the engines, towards a series of grids with super precise apertures running through them. The first grid is positively charged and as the ions pass through the grid they’re accelerated towards a negatively charged grid at speeds around 90,000mph. That’s what creates the thrust that gets us going. It ain’t no warp drive – and Wilson ain’t no Sulu – but you’d be surprised how fast a little acceleration can get ya when it’s constantly growing exponentially. That doesn’t sound anywhere near as impressive or cool as it actually is, but take it from me, it’s amazing how fast you can get with a tiny amount of acceleration over a long period of time. gotta love physics.

I could wax lyrical about all the fun we had on those 124 days that it took us to get to my new home. But right now, I’m really not in the mood.

All the shit we needed for our time on the surface itself, got here years before us so we didn’t have to bring it with us, taking up way too much space on Valkyrie – it actually wouldn’t fucking fit on the ship - and slowing our travel time. Hell, our team hadn’t even been selected yet when NASA started sending the first of over a dozen unmanned missions to get everything we’d need up here. Like the Hab, the Oxygenator and the Water Reclaimer that are currently doing their best to keep me alive.

The only thing that did get here by being brought by people was the damn missing MAV. She was dropped off by Ares 2 on their way to their mission site, just as Sam dropped off Ares 4’s MAV over their site.

Essentially, over the course of a couple years we made a trash heap on another planet to make it feel like home because we thought the planet was too damn clean, and then the six of us had to put it all together when we got here. Thor was pretty damn good at that; maybe ‘cos it was basically a heap
of really, really expensive Ikea flat-pack. Maybe he has some sorta genetic advantage.

Maybe he’s just smarter than me.

It’s probably that.

With Valkyrie in orbit around Mars, we left her to her own devices – she’s a smart gal - and bundled into the Mars Descent Vehicle (complete with MAG on again because it’s protocol) to get to the surface. I have no pride about this; they were the worst 22 minutes of my entire life, during which I found myself longing for the relative charms of the initial ascent and my French exam, and trying not to vomit or shit myself. The MDV disengages from Valkyrie with the sorta motherfucking clunk that makes you think it’s about to break in half, and the thrusters fire to get you into the right sorta angle and whatever else that you need – I’m not the pilot, what the hell do I know? – and actually it’s pretty smooth.

False sense of security.

Just when you think this is gonna be a cakewalk, and descent is gonna be silk, just before the MDV enters atmo, the HIAD – the hypersonic inflatable aerodynamic decelerator – deploys and then you wanna die. The thing looks kinda like those kids toys, those stackable rings, y’know how they form a kinda pyramid of donuts? Actually, you know the Asian conical hat, the ones made of straw? Well, the HIAD is like that crossed with the kids’ toy, but point down with the payload –the MDV - sitting inside. Its purpose is to slow the descent of the MDV while allowing for a greater weight of payload and lander so we can bring down everything with us that we need that wasn’t fired up here years ago. Remember, weight is an issue with everything in space. The HIAD allows for bigger heat shields across the inflatable surface and to slow larger masses so we can take more shit up here.

We’re materialistic, what can I say.

The donuts tori that make up the HIAD are basically strapped together and covered in a sorta flexible blanket to keep it smooth, making it more aerodynamic.

Personally, entering atmo with something held together with fucking straps is terrifying. The journey is bookended with another clunk and shake where you nearly shit yourself because it sounds like the MDV is ripping apart as the HIAD is released, flying off to fuck knows where and seconds later, a parachute is deployed to slow us down further, and Sam fires up the reverse thrusters.

At least everyone else was in the same boat with the deathly terror.

Well, except Wilson. That fucker smiled the whole way down.

Of course, that could have been the G-force pulling his face around but nah, he was smiling.

I’ve already mentioned the most important piece of equipment to get onto Mars before we did.

The Mars Ascent Vehicle.

The MAV had already spent two lonely years on Mars before we came to be its new friends.

Hey, if it can do it, I can do it.

Right?!

The MAV is pretty cool. Possibly even cooler than a flying car, though that doesn’t let Stark’s dad off the hook for failing to make one. Sending shit to Mars costs a lot. A lot, a lot. So we try to
minimize the costs where we can. The MAV is the coolest version of this.

Rocket ships need fuel. A lot of fuel. The shuttles require more than 3.3 million tons of fuel to reach Mach 23 to leave Earth atmosphere. Sure, with Mars’ lesser gravity we wouldn’t need as much, but we’d still need a lot. So far we haven’t really figured out getting shit into space using nuclear power, and if it all went wrong, the nuclear fallout can kill a lot of people, rather than just those of us in the vessel. So we’ve still got to use good old fashioned fuel. There ain’t no BP garage on Mars so the MAV has to already have its fuel on board when it arrives.

Or does it?

That’s the cool part of this. Bringing the MAV fully gassed up would cause a host of issues. Valkyrie would be a floating bomb as the fuel sat in the belly of the beast. Then, assuming you got to Mars with the damn thing in one piece, you gotta land it with all that fuel. Sending something weighing a couple million tons towards the surface. Can ya say ‘pancake’? Assuming you land the fucker, it’d be sitting for two years. Two years for something to go wrong, for the fuel to degrade, for your ride home to be fucked.

NASA can fix that.

The MAV can make its own fuel. Due to Mars’ atmosphere and a nifty chemical reaction or fifty, the MAV can make its own fuel using hydrogen. I’m not gonna explain the science because I’m not Thor, but basically for every kilo of hydrogen that the MAV is sent up with, it can create thirteen kilos of sweet, sweet rocket fuel that gets the MAV back to Valkyrie. This makes the JPL and the NASA bean counters real happy because they only have to pay for one-thirteenth of a gas tank. Health and Safety probably enjoyed us not blowing shit up, too. But it’s a slow process, hence it getting here two years ago. By the time we landed in the MDV, the MAV was gassed up and ready to go, the fuel pretty damn fresh.

You can imagine my disappointment at finding it wasn’t where it’d been parked.

I guess you all want to know how I got left behind. It was a pretty ridiculous set of circumstances. Actually, the circumstances that led to me surviving were ridiculous. The ones that got me left here were just shitty luck.

That’s why it ain’t the crew’s fault.

Mars gets buffeted by storms, just like Earth, except these are so big they cover the equivalent of a continent and can be seen from Earth with a telescope, lasting months at a time. We knew we were gonna get some, it wasn’t a surprise. The Hab can handle pretty much anything you throw at it, but let’s not test that, yeah? What can’t is the MAV. She can stand out there, happy enough in winds of up to 150kph. She can get knocked around a little, but this wasn’t a little storm. For all her hardiness, she’s still a space ship, and she’s got more than a few delicate parts.

To be honest, wind ain’t really the biggest issue to the MAV on any normal day. It’s the fucking dust and sand. Ever got dust on your keyboard? Fucking annoyin’ right? Well the dust up here ain’t just annoying, it’s also electrostatic, which means it sticks like shit on a blanket. To everything. It’s the space equivalent of those Styrofoam packing peanuts that’d stick to you, the thing in the box, your chair, everything. So not only does it get on to everything, it works its way into everything too. A grain or two doesn’t sound so bad, huh?
Ever gotten a grain of sand in your eye?

Now imagine billions of them, into everywhere.

Bane of Sam’s life having to go out every day and keep the MAV all clean and checked over, though it did get him out of a lot of digging and experiments so he couldn’t complain too much and he needed her in perfect condition as much as the rest of us so it wasn’t like he was doing it outta the goodness of his ridiculous sized heart.

But back to the storm. Lots a’ sand and shit flying around real fast.

*Real* fast.

This time wind *was* the issue. I may be the fix-it guy, but I can’t do fuck all about nature. That’s not my department. So we had to wait and see how bad it’d get. Which was about when my shitty luck got started – the winds were topping out at 175kph. Clint might have made a joke or two about it being Thor that’d called the storm forth. Not sure anyone laughed though. Pretty certain Nat smacked him around the back of the head, but that happened pretty much daily and I’ve had a bit of a day so my memory isn’t great.

When the winds didn’t die down quickly, Houston got a little nervous about it, and after half an hour we all donned our spacesuits, just in case anything went bad with the Hab. We’re all fast at putting the suckers on – thank you Colonel Phillips you drill-loving asshole - but not so fast that if the Hab tore we could get into the suits fast enough. With the winds that fast we wouldn’t even have known what hit us anyway, we’d have been ripped out the Hab like ragdolls and strewn across the surface, dead as dodos before we’d even been able to think *fuck*.

At least that only sorta happened to me and not everyone.

An hour after we all made ourselves look like an interplanetary ‘90s boyband – with the snoopy hat on and in her bulky suit Nat doesn’t really scream ‘woman’ - Houston scrubbed the mission. At the time I remember being a little worried, but mostly pissed. I’d only had six days up here. I wanted more time.

Guess I got it.

Nobody wanted to abort, but Rogers rounded us up into the airlock like little ducklings. To get from the Hab to the MAV we had to make our way through the storm, because despite the size and relative lack of anything up on Mars, we don’t have en-suite parking. The Hab and MAV have to be a set distance apart what with how the MAV is an exploded bomb and the Hab is full of oxygen so we had to make a run for it. It was risky, but what choice did any of us have?

Everyone made it to the MAV but me.

You know how I said I couldn’t communicate with NASA or Valkyrie? That’s because our communications dish did its level best to kill me. Might *still* kill me it the antibiotics don’t work or something else goes bad in the wound. The dish got ripped from its moorings in the storm and smashed into the antennae array. Which slammed into me.

Yay.

The antennae tore through my suit like it wasn’t even there and through my left arm like it was made of butter. It couldn’t have hurt worse to be experimented on by a crazy scientist and not just because of the impalement.
Tore through my suit, remember.

I have a faint memory of my ears feeling like they were going to explode because of the sudden loss of pressure, and that I couldn’t get my breath, but mostly I was focused on how it felt like someone had just wrenched my arm off.

But more than the pain I remember Steve’s face. I remember the look on it as he threw out his hand to reach for me before the wind whipped me away. I can still hear his scream, crackling over my damaged comms.

‘Bucky! NO!’

I woke up to the unwelcome blaring of my suit’s internal oxygen alarm as it roused me from a profound and deep desire to just fucking die already. I was almost buried under sand, gasping to breathe under its weight, and surrounded by utter calm, as though Mars was apologising for losing its shit and was meekly going about its business without even so much as a breeze.

I was not fooled by that fucking ploy, lemme tell ya.

Like you, I wondered why I wasn’t dead. Every drill I’d ever run, every simulation told me that it wasn’t possible. A breached suit, no aid and loss of consciousness spelled out RIP like nothin’ else.

But there I was, still ticking. Going deaf from an oxygen saturation alarm, in pain and still on the surface, but alive. I figured it out a little sluggishly but I got there.

The antennae had pierced the suit, and then my arm but hadn’t been able to pierce the bone – milk really does do the body good - so there was only one hole in the suit. And one in me, which had actually saved my life. I’d landed on the antennae, which had, besides causing me more pain, forced it into an acute angle that actually caused it to plug the hole it’d made in my suit. Because I’d landed face down, as I bled, my blood pooled around the metal and as it’d hit the Mars atmosphere, the water in it had immediately evaporated off, leaving cells and platelets and stuff I’m sure Barton could identify, behind that acted like sealant. It was a pretty weak fucking seal, but as I can attest, it worked.

Chalk one up for dumb luck. I certainly couldn’t have managed it if I’d tried. Forget it being a million to one chance, this is a zillion to one. If you ascribe to the multi-universe theory, I’m telling you right now that on every single other permutation of Mars, Bucky Barnes died in less than a minute after his suit depressurised.

But in this universe I landed face down, at an angle on a little dune of sand and my suit had reacted just as it’d been designed to, responding to the weak leak and resultant drop in pressure by flooding itself with air from my nitrogen tank to improve the pressure within the suit because it’ll do anything to keep the person inside it alive. Think of it like a bullet-resistant tyre – on those, if a bullet or projectile penetrates the rubber, an on-board compressor pumps more air into the tyre at the same rate as the air is escaping through the hole, which keeps the tyre inflated. Just like the MAV, humans can be pretty fragile during space travel and one thing we really need is air. Okay, two. Air and atmospheric pressure. My suit did its damned best to ensure that I had both.

It’s a twelve million dollar nanny.

Bet that sounds just fine to you. Problem is my suit ain’t the Hab. It doesn’t have an oxygenator that
can constantly break the CO2 down again into its constituent parts, providing an almost limitless amount of oxygen, so long as the filters are in good repair. The suit only has the scrubbers. It can’t make oxygen, it can only remove CO2 from the air. All the oxygen I had was what had been in my tanks when I left the Hab the night before, and thank fuck I’d refilled all the suits tanks the second we’d been called in when Natasha had first gotten an alert the storm was larger than expected – it was habit, care and maintenance of the suits is part of my job. Just like it was designed to, as soon as a leak was detected, my suit did its thing venting the air into the atmosphere and then re-pressurising with nitrogen. When it ran out, the suit turned its sights on my oxygen tank as a last resort, trying to do whatever it could to keep my suit at the pressure that would keep me alive.

Even if it meant pillaging my oxygen supply.

I said it’d do anything to keep me alive but sometimes that involves doing something that might actually kill me. Oh the irony.

Pure oxygen was flooding into my suit. Sounds like a good idea but trust me, it’s not. Earth’s air is around 21% oxygen, and that’s the way we air breathing creatures like it, but good old pure 100% was being pumped into my suit and your body isn’t designed for that. Oxygen toxicity ain’t pretty; we’re talking oxygen binding to the surface proteins of my lungs, they’ll start to fill with fluid, the O2 will fuck with my central nervous system, and oh, make me blind. Before, y’know, death.

So saying the hole in my suit hadn’t killed me, was kinda inaccurate.

More like the hole in my suit just hadn’t killed me yet.

But the pure O2 would. It was what had started the alarm that had alerted me to my continued existence and imminent death.

Oxygen poisoning is a real hazard up here, always has been in space travel, and I might have no idea what the fuck was going on, but I was fucked if I was gonna die out on the surface, convulsing and vomiting, when I had a perfectly good Hab to do that in. Besides, the crew were going to be freaking the fuck out, and my Walking Dead impression was gonna be the best prank ever.

Okay, I just wanted Barton to fix me and give me the good drugs.

I mostly wanted the drugs.

I was still on my stomach, buried beneath the sand, and in order to do something about it, I was going to have to move. Moving was going to dislodge the antennae and whatever weak seal I had working in my favour, worsening the speed of the leak. See my dilemma?

Shifting my right arm up to the breech kit that was stashed on my right shoulder, near the neck-seal for my helmet was the second most painful thing I’ve ever endured after becoming a communications kebab. Every single millimetre of movement caused another wave of nauseating pain to course up from my left arm, especially as I had to roll slightly to the left when I couldn’t get my arm free, unable to move or bend it the way I needed in the bulky layers of my flight-suit. But it had to be done; the weak seal on my suit wouldn’t be enough to get me back to the Hab, assuming it was still standing, or a rover if it wasn’t, and I had no idea how far away from either I was after my Mary Poppins routine. Spread out on my belly, I couldn’t tell if my arm was the worst of it – it was screaming too loud for my attention to tell if any other limbs were trying to make themselves heard. For all I knew, I was gonna try and stand, only to find I had a broken leg. Better to get to the breech kit asap, regardless of the pain, and deal with the most imminent threat first.

Breech kit is a fancy way of describing what it essentially a funnel with a valve at the small end, and
the strongest resin known to man running around the wide mouth. You open the valve, and smack
the wide end over the breech in your suit and in seconds, you’re no longer venting precious air.
Back on Earth I’d run this drill a million times. Just never once in more pain than I’d ever
experienced, in non-drill conditions, in the knowledge I’d die if I didn’t succeed. It’s different when
you know that if you fail, someone’s gonna slap on the lights and get in your face and scream at you
about how you better learn to do this or you’ll die.

The worst thing about drills was Colonel Phillips halitosis.

The worst thing about this was imminent, and painful, death.

And that was before I had to yank the antennae out of my arm.

I’d been expecting it to look pretty shit but once I forced my way onto my knees, I tilted my head
down as far as I could in my helmet – the neck seals make that real difficult, lemme tell ya – and took
my first real look at what I was dealing with. Protruding from my arm, red staining around the entry
into the suit, was about eighteen inches of titanium tubing. I watched my right hand move to encircle
the rod as though it were someone else’s, fingers flexing once before I huffed out a breath and forced
myself past my hesitation.

It was gonna hurt, I was just gonna have to man the fuck up and rip the fucker out, not sit there and
stare at it.

Taking a deep breath, I did that as fast as I could, like the mother of all band-aids, screaming a word
my mother would be appalled to know I know, and having not passed out from pain or the sudden
drop in pressure, dropped the rod, picked up the funnel and smacked that shit over the hole. The suit
adjusted accordingly, and according to the readouts on the suit computer that was thankfully on my
right arm, the air was 85% oxygen. Not ideal, but survivable in the short term, assuming I could haul
ass to the Hab.

I’ve never wanted to kiss a structure before in my life, but when I got to my feet – and thank fuck I
hadn’t got a broken leg from my cirque du soleil routine across the dunes of Mars- and saw the Hab
standing there like canvas covered salvation, I could have frenched the shit out of it. Could have
cried too if I’d had more time and was less dehydrated.

It was as I made my way, stumbling most of the time because I couldn’t manage the weird skipping
run that’s most efficient in a suit properly, to the Hab that I noticed the MAV had gone.

Lemme repeat that for the cheap seats in the back.

The MAV, the only fucking way off this fucking planet was fucking gone. It was the kinda thing
that’s hard to miss. It’s a fuckin’ space-ship, it’s not like y’all can hide it behind a rock or some shit.
Didn’t stop me desperately sweeping my vision around to the other side of the Hab, as though I
wasn’t sure what side the MAV had been parked on, like Wilson had gone for groceries and parked
it in a new spot when he got back.

My ride was gone.

I was fucked.

Which meant at least the others had survived. Or should have. If I’d looked up I mighta imagined
that I could see Valkyrie way up there, my crew on board making checks to make sure she was good
to go home. Maybe Steve upfront making the call home that must have been his worst nightmare.

But I wasn’t going to die out on the surface staring at the remains of the MAV structure or at some
distant speck that was nothing more than an oxygen induced hallucination. I tumbled into the Hab airlock and fumbled my helmet off the second it equalised. Once in the Hab proper, getting out of my damaged suit was harder than I imagined; they’re bulky, and really require at least two good arms, and preferably the help of another crew member, to get on and off. The kit on the left arm wasn’t helping, the fabric not able to move the way it needed to for me to free an arm I could barely move.

The wound was worse than I’d thought, but not as bad as it could have been. Remember me wanting Barton? I could really do with a doctor. Blood had wrapped in ribbons down my arm, the drying flecks stark against the too-pale skin. I knew that if I looked inside the arm and glove of my suit that it’d be awash with the stuff. Fat lot of fuckin’ good it’s doing there. The antennae hadn’t been exactly thin – this wasn’t like the rod on top of your car – as well as being blunt – I had to use forceps to push apart the edges of the wound to get a good look to make sure the antennae had been blunt before hitting me and not because it’d snapped off in the bone - and my not inconsiderable weight coming down on it had caused the wound to tear, edges ragged and sickly-pink. I’ll save ya from hearing about being able to see my muscle and bone from the outside, but I’ll give you this insight – it was not pretty.

Good thing I’m right handed. At the risk of trailing my blood all over the Hab, I limped down to the medical bay. We all have basic medical training and it didn’t take me too long to find myself some morphine and dose myself up with probably more than I should have administered but fuck it, if I was going to die anyway, I might as well not do it in agony.

After the bliss of the pain abating, I rummaged around to see where Barton had put the antibiotics and a saline bag to up my blood pressure - I don’t know how much blood I lost but I was light-headed and dizzy so I figured better safe than sorry. I’d rather need to piss every ten minutes because of excess fluids than pass out. Up on Valkyrie we had a few pouches of our own blood stored in the med-bay, just in case of shit going down on-board, but we didn’t bring any down to the surface. Which seems a real fucking stupid oversight right now, but nobody ever saw shit like this happening. Worst case, it’d be assumed at least one of the other crewmembers would be capable of donating.

Guess who is the only O-neg on the crew? Something else about me that’s fuckin’ useless right now. Anyone else keeping a list?

I’m decent at putting an IV into someone else. I’m not at putting one into myself, but I managed to get one into the back of my left hand – after sticking myself a good few times and fucking up a couple choice veins - thanking any and every deity that I had the use of my dominant hand. We don’t have any of those rolling IV stand things – why would we? – so I made do by plopping the bag onto my right shoulder as I made my way back to Natasha’s station. The antibiotics are pretty strong and I’m gonna keep taking them for a couple weeks but I just hope they work. I can’t afford to get sick here alone, and I certainly can’t amputate my arm myself if I needed. I was barely able to suture it myself, awkwardly reaching across my chest with my right hand and unable to hold the wound closed while I stitched myself up. After the morphine dulled the pain I tried waggling the fingers of my left arm.

Hurt like all holy fuck but I can do it.

Kind of.

But that’s good, right? It’s something to build on?

I really want to make a Six Million Dollar Man joke here but I’m still not sure how bad the wound is gonna be so I’m not going to tempt fate. When I had more time, I was gonna fire up the portable X-Ray, squint at the rads and try and determine if I fucked the bone or not, but first I had to try and
make contact with my crew, with some trucker bored of his mind on the interstate, just anyone.

After that, despite knowing it was pointless, I tried firing up the communications array. The dish and the antennae were gone but I had to give it a try; I survived something that should have killed me, would have killed me if any one of a thousand things didn’t go right, so I had to cling to a minute sliver of illogical hope. A sliver of hope that was dashed when, as expected, nothing happened. The entire system was fried – no radio, no laser, no high-gain, and definitly no UHF, the antennae that went through me. It used NASA’s Mars Odyssey and Mars Reconnaissance Orbiters a little like walky-talkies - they're closer to Mars' surface than the Deep Space Network and because they've got Earth in view for a longer time, they're faster to send data through. When the antennae has gone through someone, not so much.

You might ask why NASA would stick us on another planet and only give us one communications system with which to phone home.

They didn’t. That would be epically stupid.

But the secondary and tertiary communications systems relied on the MAV which would then use its far more powerful communication system to talk to Valkyrie and Valkyrie to Earth.

With no MAV, I had no communications.

Without communications I had no way to talk to my crew. With my crew considering me dead, they would follow protocol and leave Mars orbit in 24 hours. Leave me in 24 hours. Regulations are clear. In the event of a death, that astronaut’s mortal remains stayed where he dropped. He was literally dead weight and without him on board it meant extra fuel for the MAV to reach Valkyrie.

Space isn’t a fan of sentiment.

And my crew definitely considers me dead. Remember that computer on the right arm of my suit? There’s one on the left too. Except that one monitors not the suit, but me. It syncs up with Barton’s equipment and Valkyrie. The antennae went straight through it before trying to go through me. Rogers had seen me ripped away from him. Barton’s equipment was gonna show me as flat-lined and the suit undergoing a massive decompression. And with my current lack of Comm equipment, I might as well trudge to the top of a mountain and scream and wave my arms around to get their attention.

In space, no-one can hear you scream, so you can imagine how well that’d work.

To my crew, to NASA, to my family, and to the world, I’m dead. I have no way to tell them that I’m not. Nobody is ever coming to get me.

So…that’s my situation.

Makes me think of something my dad used to say. ‘When all is not lost, all can be recovered.’ I don’t know whether he made that up or if it’s from a book or fortune cookie or something, but whenever things got shit, there he’d be, back bowed from hard work and later the failing treatments, body and heart broken, but so fucking determined.

He always lived by that motto and now it's my turn I guess.

So here’s my plan; live.

It sure as shit ain’t easy, but it is simple.
I wasn't trained for this shit, ya know. Sure, we ran a million and one permutations on a million and one scenarios, but even Phillips never saw this coming. Never once did he drill us on what the fuck to do in a situation when your whole crew - the whole fucking world - thinks you're dead and you're alone on a planet. There's no manual for this shit, no rules, no guidelines.

I am winging it by the seat of my pants and every other second I'm expecting the fabric to tear.

I'm in a Hab designed to last for 31 days and assuming that NASA doesn't scrap manned missions to Mars, I'm going to have to find a way to live in it for 4 years until the next crew arrives.

I'm on a planet that very emphatically did not want me here, with an atmosphere that wants me to die.

If the Oxygenator breaks down, I'll suffocate.

If the Water Reclaimer breaks down, I'll die of thirst.

If the Hab breaches while I'm not in a suit, I'll die.

If I'm in my suit and it breaches and the kit doesn't hold, I'll die.

Even if none of these charming options happen, I'm *am* going to run out of food and slowly starve to death.

So I stand by my earlier log.

I'm fucked.
Chapter Summary

Slowly coming to terms with his situation, Barnes has to figure out a way to make the most of it and survive. He's discovering that he's not just going to need to fight Mars to do it.

Chapter Notes

Bucky has to carry out a non-graphic medical procedure on himself - cutting into and flushing out an infected wound during sol 13.

See the end of the chapter for more notes.

Log Entry: Sol 7

Actually slept last night, between the morphine, exhaustion and the lack of Barton’s sinus problem. Dude snores like I cannot even describe. Best of luck with that Nat. Can’t say it was real restful though.

I had a dream. Or a nightmare. Hard to tell.

Maybe it was denial, maybe it was shock, maybe it was morphine, I don’t know. I dreamed the storm was the nightmare, not my being here. That I woke up to Barton’s grinning face - and horrific morning breath which he should see a dentist for – with the sorry bastard chowing down on a sausage patty and tryin’ to get me outta bed. He’d been laughing at me, telling me I’d been screaming about wind and antennae, complaining I’d woken everyone in the pod. Which is bullshit, by the way – anyone who can sleep through his snoring could sleep through me ‘screaming like a baby’.

I shoulda known it was a dream right then. Never, not once, has Barton ever been awake before me. But I guess I wanted to believe it, even in the dream. Garner would probably go on about the psychotherapeutic benefits of dreams, or some shit about how my mind was trying to purge its fear or something by replacing it with a happy thought. Or maybe even in my dreams, my mind wanted to pretend that the storm had all been some sorta rehydrated mac & cheese induced nightmare. All I know was that, in the dream, I was so sure that when I stumbled out of the sleeping pod into the main compartment my whole crew would be there, waiting for me; Sam making some shitty comment about sleeping beauties because he’s jealous of my jawline, Nat smirking about fuck-knows-what, Barton eye-sexing Thor’s breakfast while Thor tried to break my shoulder by gripping me by it and Steve…

Steve who would be concerned and amused, checkin’ in on me repeatedly throughout breakfast because he’s more of a mother-hen than my ma. And I was right. Tripping over my own feet, I’d made my way out and there they’d been, waiting for me, right until I turned to Steve. Which was when the other shoe dropped. Steve’s expression hadn’t been concern. It’d been fear. Abject, and complete terror. His face had been pale, his eyes faded out to a dull grey, and his hands, wrapped
around a work-tablet, had been shaking.

I’ve never seen Steve’s hands shake. Not once. I’ve seen him mentally, emotionally, and physically exhausted, while half-starved and running endless drills under Phillips’ exacting gaze and sharp tongue. Not so much as a trembling lip.

When he’d opened his mouth, all that’d come out was ‘Bucky! No!’

Which was when I woke up. With no chance of going back to blissful denial. From the moment my eyes opened, I knew the truth; Barton's bunk is opposite mine. If the storm was a dream, he'd be passed out and drooling right in my eyeline. The bunks were empty, no reassuring pings of the microwave as a full crew made breakfast, no cheerful voices or sarcastic retorts.

Just a planet of nothing. No crew, no escape, no survival.

It was a great fuckin’ start to the day, lemme tell ya.

To keep my mind off replaying Steve’s voice on repeat, I fired up the last album Sam had subjected us too and played it loud as I could without my eardrums bursting to drown out his cry, and filled my day with physical labour. I spent the morning slowly and painfully taking stock of inventory of anything that might help keep me alive. Food, medical supplies, tools, spares, suits, anything and everything went on the list. Back home, especially when I was at college, I was pretty happy to live in what Ma would call a dumpsite. I could have clothes all over the floor, mugs all over the place, laundry drying on radiators for weeks without putting it away…I was a slob and happy. But not when it came to my notes or research. Sometime I’d let it slide for a while and then for no reason just get into this organising headspace, like genes from Ma activated and overrode slob syndrome. Going through the Hab this morning, on not enough sleep, and nowhere near enough analgesics, was kinda like that. I was in the fuckin’ zone with cataloguing all that shit.

Sublimation, thy name is Barnes.

Would have been easier, not to mention freaking faster, if I’d been able to use both arms, but I had no choice but to mock up a sling for my left arm – why didn’t Barton pack any of that shit? - strapping it pretty tight to my chest. Taking x-rays of yourself isn’t the easiest thing in the world, but after a couple tries I got a more or less clear picture of the damage the antennae did. On the other hand I may be halfway to sterile as a cottonball now. The bone took the brunt of the impact, but I couldn’t see any fracture lines, just a sorta dark splodge part way up the humerus. Real fuckin’ funny. May have been a couple chips floating around but I’m gonna have to wait to see if they become a problem because I can’t go fishing around in there; I don’t’ have the dexterity or the skill. So I have to wait. Wait, hope, and keep taking antibiotics.

Awesome.

After going through everything, I had to struggle back into my suit – with the patch over the hole it’s actually in fine shape and although I’ve got seven EVA suits to choose from – yes I can count and it’s seven because NASA sent a spare in case something like a fuckin’ antennae ripped through one. Now Nat’s is gonna be too small for me to wear, but I can cannibalise it for parts for the others, anything from seals to the whole helmet, whatever I might need - at my disposal now, this one is the only flight suit I got and it's easier to get on than the EVA suits which generally require help from someone else, given the situation with my arm.

You're gonna ask how the crew left their suits behind if they were able to go outside and get to the
MAV without dying.

I'm gonna tell ya.

We all got two space suits – one off-the-rack flight suit that we wear during ascent and descent and is far more comfortable - for a given definition of the word comfortable - to sit in while subjected to ridiculous G-force, and the far bulkier, heavier, less fun custom-made EVA suits.

Think of it like this - if you’re picturing a big-ass bulky suit, that basically makes you look like an immense white rectangle with limbs kinda like Robby the Robot, that’s an EVA suit. If you’re thinking of a super sexy orange-and-white number that is fitted and kinda like a really expensive wetsuit but looser and way more cool, then that’s our flight suit.

I got both of my suits, and everyone else’s EVA suits, plus the spare which is also an EVA suit built to Thor’s specifications because he’s the biggest. If it fits him, it’ll fit Nat, even if she wouldn’t be visible in it. So long as it made a seal around her, wouldn’t matter if we had to carry her tiny ass to the MAV, she’d stay alive.

When we evacuated the Hab, we were all in flight suits. Maybe I wouldn't have gotten so hurt in an EVA suit.

Maybe I'd have died.

I dunno.

I’d like to point out I look sexy as hell in both. Just not doing the bounce-swear-wiggle-cry ridiculousness that I was engaging in to get the fucking thing on.

I gotta tell you, I can’t rib Rogers’ dancing after the moves it took to get me into that damned suit. Couldn’t sling my arm up again in it with the breech kit sticking out so that hurt like a bitch. But I had to check the lay of the land out there. I’ve got a much better idea of my situation.

The mission was gonna be thirty-one days. To be safe, there was enough food sent up here for fifty-six days. For six people. When it all went to shit yesterday we’d only been here for six days so that leaves me fifty days of food for six people so that’s 300 days of food if I don’t ration and more if I’m willing to starve a little. Either way, I’ve got some time. Not four years’ worth of time but cut me some fucking slack, it’s my first day and I’ve found a way to live for almost a year. Top that!

Guess I’m back to my student days again because pasta, meatballs, and something that generously refers to itself as ‘stew’ is pretty much a large portion of the oh-so-appetising freeze-dried meals we got sent up with, along with some soups, muesli - because that stuff is fuckin’ cardboard to start with, sending it to another planet can’t make it worse. Can’t make it better either, unfortunately - and meatloaf (aka a brick of protein that is weirdly solid and actually has negative taste) for variation. For special occasions, we got a smattering of sweet&sour chicken, something that calls itself curry that ain’t really curry but is real nice, and the ultimate gold-mine, the NASA version of a burrito. Of which there are only six, and Rogers musta had them hidden in his kit because otherwise Barton and Wilson woulda eaten them already. I’d fight my own sister for one of them. Actually, I had to fight my sister for a lot of my meals. In the Barnes household, if you didn’t eat fast, you didn’t eat. Becca’s excuse was that she needed it, she was a growing girl on the JV softball team. In reality, she just liked to steal my food.

When I was at college, I lived on a pretty fucking steady diet of mac and cheese, stew that generally
contained everything in my mini-fridge that looked kinda funky (and the stuff that was looking very funky that I kinda threw in with my eyes closed to pretend that I didn’t know it was in there) and actually tasted decent if I stole some stock off one of the girls that lived on the floor above, meatballs when Ma visited and took pity on me, occasional Chinese takeout when I had a few extra bucks, and those couple months I lived on pasta sauce. No pasta, just the sauce – welcome to a PhD, kids; pasta took too long and required me watching it and making sure it wasn’t over done when I had notes to read and a defence to prepare for. It was faster to just pop the sauce lid and dunk in a spoon and pretend it was soup. What I’m tryin’ to say is, I’m not exactly a refined palate, so when I tell you that most of the shit we get sent up with is probably the worst thing I’ve ever put in my mouth, I’m not being precious about it.

It’s all as delicious as it sounds; maybe once it had some taste or flavourings, but it wasn’t calculated down to the last calorie by overzealous nutritionists and doctors for nothing. Its sole purpose is providing exactly the nutrients and fuel needed by the human body. It’s not for enjoying or savouring. Which is good, because once it’s been freeze-dried, hermetically sealed, jettisoned into space, impacted the surface, hung out for a year or so, mixed with water and put into a microwave...you get my point. But it’s food, and its more food than I’d hoped for so I ain’t complaining.

Much.

I’m saving those burritos for my birthdays. I’m eating one tonight. Fuck it, I’m a recovering boy, I’m gonna die. I’m eating a fuckin’ burrito. And the end result of the beans ain’t gonna offend anyone but me.

From my quick EVA the Hab, or New Brooklyn as I like to think of it, has come through the storm a-okay. I’m not admitting to having pat the side of it and thanking it for that. Definitely not admitting to any tears that might have happened.

The rest of my new kingdom – it’s my damn planet now, so it’s my kingdom. You’re welcome to come up here and fight me for it. You can have the planet and I’ll even throw myself into the bargain. Up for sale; one planet with astronaut included – must provide own transport for astronaut.

Anyway, my kingdom isn’t looking as good as the Hab. I can’t see the comm dish. Where we landed, Acidalia Planitia, is flat as a pancake. Seriously, it’s like Kansas out there and the dish definitely ain’t in Kansas anymore Toto.

Something like the dish would be visible for a really fucking long way, and I can’t see hide nor hair of it. I won’t lie, a part of me had been holding onto that hope. That it’d be there, maybe snagged on the MDV or somethin’, that my crew could somehow hear from me, that NASA would know and figure it out and I’d be back on Valkyrie in no time.

I had tried not to hope, honest, but I couldn’t help it. From my dream it’s safe to say my subconscious was clinging on to hope with white knuckles, no matter how much I was denying it. What was left of my heart had sunk when I couldn’t see the dish and I will admit to the tears that time. Big fat, unattractive tears.

Which threw up its own issues. You ever cried with a face plate on? It ain’t comfortable and it ain’t fun. During training, we actually ran a whole bunch of drills about the hazards of there being water or liquid in your helmet. It tends to indicate something is real fucking wrong with your oxygen system and you gotta haul ass back inside the Hab or Valkyrie like hounds of hell coming after you. Go figure. There’s liquid in my helmet. There is something really fucking wrong, but it ain’t the suit, and I couldn’t go in yet to bawl my eyes out in relative comfort and with my new best friend morphine.
Don’t fuckin’ dare judge me; it ain’t a perfect coping method but it’s all I got and I need sleep anyway, I’m a healing boy. Gotta get healthy for all the dyin’ I’m gonna be doing soon.

While the MAV is gone, the bottom half consisting of its landing stage remains. It comprises of the landing gear, the fuel plant and everything NASA decided it didn’t want back because it’s pretty much single-use and heavy to bring home. Like I said, we’re turning Mars into a trash heap so it feels more like home. The Moon couldn’t get all the fun in that regard. Two other sites on Mars have the same detritus strewn around after the crews left, and a third site has a pile of pretty boxes and a bright shiny MAV just waiting for new friends. I’ve no idea if the flag is still standing at Ares 1, though. We didn’t bother planting one at 2 or here, but when Ares 1 landed, a flag was planted just outside the main airlock of the Hab. There’d been a competition back home for the flag that should be flown. Unlike the Apollo missions, it was decided not to use the Stars and Stripes; something about being more inclusive for this being mankind’s achievement not just that of one country.

Or some such PR bullshit. Ask Potts, it was probably her idea.

But I’m getting off topic. Some of the otherwise useless MAV struts might be of use down the line, if I am going to really be here for four years – I’m a mechanical engineer, I like playing with stuff, sue me! - but it can stay out where it is for now. If it survived the last storm, it’ll likely be fine and space in New Brooklyn is at a premium. Besides, it’s been exposed to two years worth of radiation – Mars’ atmosphere doesn’t protect from the Sun’s rays. I might as well just be moving a nuclear rod into the Hab if I take that shit indoors.

The MDV is in really shitty shape. It’s on its side and dented and scratched all to hell, poor gal. The force of the storm ripped the reserve shoot – that we’d not needed to use when landing because Wilson is a fucking pro – from its casing and the wind caught it and played pinball with the MDV, smacking it into every rock around. Thank fuck the wind wasn’t in the other direction ‘cos New Brooklyn probably wouldn’t come out on top of a Hab vs MDV faceoff.

Mars: The Flattening.

The MDV isn’t of use to me in and of itself – its thrusters can’t even lift its weight, even with a lot of the fuel burned off because it’s designed to fall not fly and the engines are to slow it down – bet that was a mind-fuck, that engines are used to slow ya down - and directional control. Basically, an MDV falls to Mars with occasional moments of slowing, rather than flies which probably explains the fucking awful experience. It’s like the space shuttle like that – gorgeous, powerful, but the aerodynamics of a brick.

It’s always going to hit the surface, but in what shape, that’s the question.

It’s in a pretty bad shape now, that’s for sure.

But like the MAV remains, it might be valuable for its components, assuming they’re salvageable, and/or in decent shape after rolling around on the surface for however long. Rockets are a bit like whales – real majestic in their natural setting, but take ‘em out of it, and they can’t support their own weight. The MDV was designed to support her weight vertically. She ain’t meant to do it on her side and that mighta crushed some critical components, but for scrap metal, she’ll do just fine. Consider it payback for the shitty 22 minutes of Hell.

The massive rovers – these aren’t your parent’s rovers, little larger than an electronic car and relatively delicate for something that gets fired into space, nah these are freaking tanks and so, so cool – are half buried but from what I could see, look to be in okay condition. They’re fucking cool – they’ve got six tyres, and each of ‘em can rotate through 360 degrees so they can turn on a dime,
and even drive sideways. I might be kinda in love with ‘em. They can take more punishment than the Hab. For fun NASA took ‘em out into the desert and flipped ‘em, crashed ‘em, threw shit at ‘em…it was pretty entertaining and trust me, those bad boys are solid.

Maybe we shoulda all piled into one of ‘em and driven to the freaking MAV.

Carpool anyone?

When my arm is better, I’ll dig ‘em out. Look at me being all optimistic and shit about my arm. I’m growing as a person. Hell, look at me being all optimistic that I’m gonna live long enough to need a rover. Maybe I’ll write a self-help book about expanding your horizons and improving your state of mind and learning who you really are through adversity.

Maybe I’m already cracking up after only twenty-four hours of alone time.

Why am I gonna waste all that time and energy on digging out my rovers?

‘Cos it won’t be a waste.

The storm didn’t just take out my communication with NASA and Valkyrie. I’ve lost all communication with the weather stations. You know, the things that alerted us to the fact that Mars was flipping its shit yesterday and made us run away. We’ve – I’ve - got four of these stations out around New Brooklyn, all about a kilometre away and I need to check on ‘em and make sure they’re okay. If I really am going to be here for four years, it’d be nice to have an idea of what Mars is thinking of throwing at me on a daily basis.

It’s me vs Mars. Mano et…God.

That sound fair to you?

I need the rovers to get to the weather stations – you ever tried walking 8 kilometres in a space suit? No, I didn’t think so. It’s stupidly difficult and I ain’t doing it. So, I’m gonna do what all Americans do when they have a short distance to cover – I’m gonna hop into my climate controlled car and fire that puppy up. Maybe if I drive far enough, I’ll find a drive thru. I won’t hold my breath though.

Man, what I wouldn’t give just to hear Barton go on another In-N-Out versus Five Guys rant. For that matter, what I wouldn’t give for a fucking cheeseburger. Or a hamburger. Or fries. Yeah, fuck it, I want fries. Greasy, salty, crunchy potato goodness. I could eat fries all day, every day and still want more.

But the rovers can wait – if I’m not going far from the Hab, I don’t need to know the weather beyond sticking my head out the front door and checking for rain.

No, not really. Idiots.

What can’t wait are the solar cells. When we got here, Thor and I set out the solar cell array which powers the Hab and everything in it. I don’t wanna get bogged down in the science shit but I’m gonna let you all in on a trade secret: solar cells need exposure to sunlight in order to make electricity. Normally, every morning two of us would trek out armed with an expensive broom-type thing and a compressed-air gun and clear the fuckers – even when Thor and I were still setting up the array, we had to clear the ones we’d set before continuing on with getting the others in place - before setting off to do whatever experiments we’re doing or helping others in doing, but now it’s all down to me to keep ‘em uncovered. After the storm, they’ve buried in sand, rather than just suffering from a light coating as usual so the Hab is running on battery power, but that’s a finite quantity. I need to get the array cleared and the Hab running off solar and let those batteries recharge.
Sand is a bastard. Seriously. Being on Mars is like running on the beach fully clothed. Ya get home and that shit is everywhere. It gets on everything, in everything and clogs everything up and now despite the fact that it was Mars that threw the temper tantrum, I’m the one that has to clean it up. It’s like a massive, red toddler.

Or Clint Barton in planet form. Or, even worse, Stark.

With a lot of swearing and a lot of one-armed work, I got ‘em uncovered again, so whatever I’m gonna be doing up here, I’m gonna have all the power I need. Assuming of course that the massive storm that Mars winds itself up for every few years doesn’t occur. For some reason, every three-ish years, the huge storms on Mars, the continent size ones I told you about, well they all join up to have a party and the whole planet goes apeshit and disappears behind dust clouds. In the long-term that’s good, because blocking the sunlight stops the surface getting warm which stops the thermal lift so the dust…your eyes just glazed over, right? Basically the storm itself is what kills the storm. The dust blocks the sunlight getting to the ground to warm the air above the surface which means the dust doesn’t get kicked up into the atmosphere and it all settles down. All well and good, right? But short-term, I’d be fucked. Those storms can last weeks, even months and without power to recharge the batteries I can’t heat the Hab, let alone run anything else and I’d be a Bucksicle.

I’m trying not to think about how we’re actually overdue for one of those bad boys. Not to whine or nothing, but I don’t want to be a Bucksicle.

To that end, solar panels. I’ll have to brush ’em down every few days but once I figure out the best way to do it and I can use both arms – check out that optimism – I’ll get faster at it.

Inside the Hab, my castle is looking pretty damn good. Even if when I wriggled out of my suit, I wasn’t, blood, and stuff I’m gonna pretend was blood, running down my arm and all inside my suit. Yup, you guessed it, I tore my painstakingly carried out brocade. I had to snip ’em out and went the staple route rather than stitch myself like a quilt again. For those that don’t know - lucky bastards - surgical staples are sort of a six legged M with two extra little legs on the ‘V’ part of the M. When you fire them into your skin at stupid speed, the V part flattens out to look like a staple in paper, just a flat line, and the remaining four leg parts punch into the skin at an angle. The little legs hold the skin close to the surface closed and the longer legs hold the wound closed deeper into the flesh.

Oh, and it hurts like hell.

Ever stapled yourself accidentally? Take it from me. Don’t. The experience has little to recommend it. Hopefully I won’t have to do it again, but if I am up here for the next four years, knowing my current luck I probably will. Excuse me while I try to drum up some enthusiasm for that.

After my morning constitutional across my rolling acres, I spent the afternoon checking the stuff that’s gonna keep me alive. Nothing should have affected the instrumentation in here, the Hab appears undamaged and New Brooklyn is used to running off battery power – it’s what it’s designed to do every night. But I’m a paranoid asshole that ain’t taking no chances.

I ran two full diagnostics on the Oxygenator. My new bestest buddy is in perfect working order. Should it betray me, there is a temporary back-up that’ll keep me breathing for up to thirty days while I try to fix it, but like my suit, that back-up can’t reclaim oxygen from the carbon dioxide I exhale, it can only filter the CO2. Once those filters saturate, if I haven’t got the Oxygenator back online, it’s last gasp central for me.

The Water Reclaimer however doesn’t have a backup, so I’ve got to keep my beady eyes on it. If I can’t fix it, I’ll be drinking reserve water until I can break into Thor’s shit and set up some sort of
crude distillery for piss.

Ain’t space travel super glamorous? Betcha all wanna be astronauts now, huh? For Christmas, you can ask Santa for some flasks and beakers and learn how to make piss drinkable. I can imagine it’s a pretty simple process, consisting of one step: don’t.

The Hab hasn’t yet reached optimum humidity yet, but when it does I’ll stop losing half of litre of valuable water just by breathing so I’m looking forward to that. I’m also looking forward to waking up without wicked dry mouth. My nose fuckin’ stings because the air in here is so dry. But I gotta give the WR a break; it took Barton, Nat, Rogers, and Wilson the first few days we were here to unpack, assemble and inflate the Hab. Everything in here has only been running for a few days, so it ain’t a surprise that nothing is up to speed. Fuck, it ain’t like I am either. So for now, the WR and I are pals. We got a kinship goin’ on. A strange, cybernetic-esque kinship.

So I got everything a king could want except people to rule over and boss around: I got water, shelter, air and food. Of those four, food is my biggest problem. So long as I keep the solar cells clear the Oxygenator is fine, as is the WR and main control and equipment is here. The Hab has spares for a bunch of stuff, like canvas sheets in case of structural damage, tubing for the WR, filters for suit and backup-Oxygenator, blah blah. But food…I’ve already started rationing myself to three-quarters of a meal. Up here, you’re kinda like an athlete. You’re body is working way harder than if you were nine-to-fiving it. A man my size back on Earth, recommended intake would be around two thousand calories, but up here I should be eating up to three thousand calories a day, more really because my body is trying to heal, so cutting it down isn’t awesome.

But beggars can’t be choosers. Or feasters. Or some shit. I don’t know. But the rationing

During my raid of medical bay I found jumbo bottles of multi-vitamins. Seriously, these things are huge! Who knew NASA shopped at Costco? Nutritionally I’m set, but vitamins and minerals don’t replace calories, even if I took ‘em by the fistful.

But I’m not slowly starving to death, I’ll tell you that.

That isn’t my new found optimism talking.

It’s more… realism.

Even with the shot of morphine I took yesterday, and another today after the staples, there is enough morphine in medical bay to be a lethal dose.

If I’m gonna die up here, it’s on my terms, at my time.

My choice.

What can I say, I like control.

But don’t start frettin’, I’m not there yet. I might never get there. I just want options. I’ve been ruminating on how to survive this. I tell you, thinking is so much easier with coffee. I was willing to abandon the beautiful machine up on Valkyrie on the basis that it and I would have a beautiful, and likely downright pornographic, reunion in thirty-one days.

Why didn’t we bring coffee down here? Mars is surprisingly the one place without a Starbucks on every corner. Or any corner. Who do I complain to about that? You can’t walk down a street in New York without encountering five stores and yet here…If I survive this, there’s gonna be a real sharp phone-call to headquarters and a demand that I get free coffee for life as compensation for the emotional distress of being left coffee-less.
Pretty sure if I survive this I’ll never need to buy a drink – coffee or otherwise – again. Pretty sure people fell over themselves to buy Aldrin a drink. Survive four years on Mars and I should think people’d fall over themselves to give you stuff.

Black and blue backside is what my ma would give me for scaring her.

Even without coffee I can do the math – Ares 4, assuming it’s still gonna go ahead, will land not near me, but 3,200km away in Schiaparelli Crater. Not exactly walking distance. If I could communicate with someone, anyone, maybe I’d have a chance at rescue. I’d need coffee to figure out the how of how that’d work, but NASA is swimming in coffee and eggheads. Let them figure it out.

Have Comms, will travel. All the way home to Brooklyn hopefully. So, ferns and all the other experiments that actually seemed really interesting when we first arrived - and that I should have been doing right now - are out, and communicating with Earth is in. Failing that, communicating with Ares 4.

At least I’ve got plenty of time on my hands to try and contact Ares 4. Excuse me while I don’t get super excited on that, yeah?

All things considered, things don’t seem quite as hopeless as they did yesterday during my ‘fuck me I’m alone on Mars’ moments. Like you wouldn’t have a few wobbly moments.

They’re still shitty and I’m still fucked, but more fucked-with-a-baseball-bat, rather than fucked-with-a-white-hot-poker.

I’m a real upbeat fella when I’m battling infection and dying. I’m also an over-dramatic lil’ shit.

I don’t need you all reminding me that I’ve only got enough food to survive a year, not four. Optimism, remember? Give a guy a break and let me tackle one thing at a time. Right now I have food. I don’t have a radio, so that’s my task: fix the fucking radio.

Or build a fucking radio.

Or smoke signals or some shit.

Just communication.

I vaguely remember from an elective from college that communication is a basic human need, a human right, and that without it, no community, and certainly no individual would be able to flourish or even survive without it.

Too fucking true.

If I’m to survive, I have to talk to Earth. I don’t fucking care if I accidentally get through to some nutcase with a longwave radio trying to contact fuckin’ aliens, I just need to talk to someone. Besides, it’d give my new friend a great story to sell to the tabloids: ‘I talked to a real live martian.’ I could be an episode of the X-Files. Shit, there probably has been an episode like that, huh? Damn, can’t even be original even in this.

Fuck it, it’s time to Macgyver this shit.
Log Entry: Sol 13

How much progress have I made on communication in the last six sols?

Not much!

Go me…

In my defence, there were extenuating circumstances above and beyond the whole ‘stuck on Mars’ thing I’ve got going on at the moment. Thing is, I mighta overestimated the speed at which I heal. Or maybe we heal worse in space? Damnit man, I’m an engineer, not a doctor! Wait…that’s not right. I only watched a couple of the Star Trek episodes Danvers had on back in Florida, so y’all can forgive me.

Which isn’t the point.

I think I might have fucked the humerus. I took another x-ray of my upper arm and it's...different from the one I took on Sol 6. I don't know if it's good or bad but given the agony, I'm leaning towards bad. You know how the astronauts on the shuttles and ISS lost bone density and shit like that after spending time in orbit, because the bones break down and release calcium, leaving our skeleton more brittle and weak. That release of calcium can also increase the risk of kidney stone formation so that’s just awesome too. Apparently passing a stone is like giving birth down your dick. So…diaper that can absorb blood from my dick and now kidney stones...Are you kiddin’ me? Why did I grow up wanting to do this? Because being stuck up here for four years, after six months already off Earth…no human being has ever gone through something like that, so I got no idea how my body’s gonna be affected. Fuck, half of what Barton was up here to study was how this was gonna affect us long-term.

I can guess that four years up here equals multiply that bone break down by a lot. Trust me on this, I’m a scientist and a lot is the correct measurement here, because Mars doesn’t have the gravity that Earth does and humans ain’t designed for this shit, and that’s what’s gonna be happening to me. Has been happening to me since we fired off.

If I fall and break a hip at the grand old age of 30…Stark will never shut up about it, my ma will have a heart attack and my sister will laugh herself sick. Of course in order for that to happen they have to actually know I’m alive up here, and I’d happily endure the laughter if it meant they knew I was here.

Barton would just love to experiment on me, but I refuse to be a fucking lab rat any more than I’m going to be anyway. I mean, I’m literally locked in a cage up here. All that’s missing is the hamster wheel. Seriously, some biologists just came in their pants thinking about studying me as I while away my time up here, didn’t they? Or would have done if they knew I was alive. Maybe you don’t spend your time thinking about shit like that, but I know these people – trust me, if they knew I was up here, a whole host of MDs and PhDs, and fuck knows who else, would be creaming themselves at the thought of me as their little test subject.

Anyway, bone density - and unfortunately spontaneous ejaculations of strangers - are weighing on my mind. The last couple sols, my arm has been fucking killing me. I started to freak out after I stopped being able to lift it more than a couple inches, which resulted in a sensation like someone had set the inside of my arm on fire and worried that I might have been developing an abscess or something – it got real swollen up, red and hot as fuck in this weird almost star shape around the wound, and then I rolled on it in the night and the whole fucking world lit up and the shit that came
out of it...I’ll save you it but fuck it was nasty in so many ways.

Painful as fuck and I can’t be dealing with that shit.

So I had to do a little explorative surgery.

Which was as lovely as you’d imagine.

Injected some local anaesthetic around it, removed the staples and delicately sliced into it a little. If it wasn’t pretty before, it got real ugly then. I got out what I could, including a couple of the bone chips I’d seen on the rad, and flushed the shit out of it with kanamycin – go Barton for being so prepared – because fuck I’m pretty sure my insides shouldn’t have looked like they did once I got a good gander, and then packed it with sterile gauze and wrapped it up best I could.

Anyway, long story short, my arm is now doing better. Which is such a fucking relief I can’t even tell you, slow though the progress is. Ran a fever the last few days, even with the antibiotics, and the wound is still pretty hot and red, and so swollen that it made me want to cry whenever I had to touch it, or move my arm, or breathe, but the antibiotics seem to be doing their thing -go medical science! - and the wound doesn't smell or ooze anymore.

I’ll take what I can get. I can’t afford to get an infection, not a recurrent one and not up here, not with no doctor and limited medical supplies. I’m checking it every few hours, washing it down with bactine twice a day which is helping with the pain and itchiness. I don’t wanna dip into the anaesthetic or morphine unless I absolutely have to so I’m trying to grit it out.

You know why.

Gonna have one hell of an awesome scar, though. You think it'll help with picking up guys and dolls? ’Hey, wanna see the scar from where Mars almost killed me and I had to operate on myself?’ Think it’ll work on Rogers?

What am I talking about? I don’t need no help, I am smooth as silk. Besides, it sounds like something Barton would say, and I love the guy like a brother but I don’t need to aspire to his level of idiot.

I celebrated this improvement with three EVAs, during which I partially, and one-handed, dug out a rover. Which really fucking hurt if you’re wondering but didn’t pull the staples or open the wound so I’m taking it as a win. I told ya’ll they’re like tanks, and thank fuck for that. I was able to dig some of the sand away from the rear tyres and the sides, enough to get into one of the airlocks and then I reversed out of the rest of the sand. It wasn’t easy, and it wasn’t quick because do we have proper adult-sized shovels up here?

Fuck no, of course not.

We have little trowels for taking samples and digging little holes in the surface. I started out with using the trowel but that was just fucking stupid, so I went back into the Hab and grabbed one of our meal trays. Way more efficient, though my back is now killing me. I had to get out and in and out and in and out and in of the rover once I got an airlock free – you get the idea – to dig out a little more, trying in vain to scoop out the shit underneath so that it wasn’t so beached on the sand, but after way too many hours work, I was able to get it free.

I’m hoping that later, when I got two hands, I’ll be able to use this rover to drag the other out of its private dune; the rovers can link up, so if I can dig out the tow-hook, I can hopefully just tow the second rover free and voila, my very own fleet.
They ain’t no flying car but I’ll take ’em!

It was kinda fun tooling around in the rover. At the moment, I’ve dubbed it the Fun-vee. What wasn’t fun was not finding a single hint of the Comm dish. It’s not like I was going too fast to see it – Acidalia Planitia might be flat in theory, but it’s fuckin’ bumpy and that shit hurts. Even going like a Sunday driver, there was nothing to see. For all I know it’s in a thousand pieces, or buried or knowing my current luck, a lovely combo of both.

After that uplifting thought, I returned to what was left of the Comm array – couldn’t get out to the weather stations; I was in a metric fuck-ton of pain and I don’t wanna got too far from New Brooklyn until I know there’s been no damage to the Fun-vee’s batteries. I might as well stick to the mission rules as much as possible; unless both rovers are operational, the working one doesn’t go far. I don’t wanna get 1km from the Hab, thinking I got plenty of charge, only to find there’s been damage to the cells and I’m stranded. Like I said, walking that distance in a suit is not fun.

What’s also not fun is the state of the Comms array. I stand by my assessment that I might as well cup my hands and yell in the general direction of Earth.

I’m an engineer – given no other option, and with scrap metal that I can scrounge up from the MDV, MAV and the Hab, I can cobble together a dish. It won’t be pretty, but hey, might win the odd award for trying. I’m sure I could bang together some sort of statue or something.

The Barnes Award, like the Darwin Award, but the recipient tried harder to survive.

Problem is, this ain’t no walkie-talkie we’re talking about here, and what I could make would be of little more use that stringing a can onto some cord and hoping Earth can hear me.

Besides, it’d take a lot of time outdoors and food isn’t the only thing that I need to ration. The filters in the suits can’t be cleaned. Once they’re full, that’s it. The mission was prepared on the basis of each of us needing, on average, four hours of EVA per day each. As the filters are light and little, NASA saw fit to be generous with sending spares, to the tune of me having around 1,500 hours worth of filters. After those are done, it’d be a case of doing what my suit was doing when I woke up out there – venting old air into the atmosphere and back filling with nitrogen and oxygen. Not ideal.

I know what you’re gonna say – 1,500 hours is a long time.

I could break out into a song from Rent but I won’t.

You’re forgetting that I’m gonna be here for four years, and several times a week I’m gonna have to take up some of those hours just on solar cell clearing, let alone other shit. I’ve got about 1500 days until Ares 4 gets here, so that’s only one hour of EVA time a day, and I already spent several hours outside today. What that boils down to, for the cheap seats in the back, is no needless EVAs.

There’s another reason why I don’t exactly wanna be out there sunbathing any more than necessary; radiation. Our suits have radiation shielding, but they’re not as efficient as the Hab and from the second you step out the airlock, the clock is tickin’ on you beginning to glow in the dark. You lucky bastards on Earth don’t really have a whole heap of experience with radiation because of the Earth’s magnetosphere and the relatively thick atmosphere. Your biggest worry on that front is one too many x-rays or some form of nuclear fallout. But up here? Different story. Just the journey here was a six-month radiation shower and that’s taking into consideration the hefty shielding on Valkyrie. Basically the trip to Mars already exposed up to potentially the equivalent of working at a nuclear plant for fifteen years. That’s 30 years round trip just for the roadtrip, let alone being on Mars. Being out on the surface isn’t much better. Sure the radiation is cut by about half, but there’s are daily, weekly, even seasonal variations in the amount of radiation I’m going to be subjected to.
For four years.

In New Brooklyn, I’m largely shielded by some fancy-ass materials in the Hab’s canvas – you’d have to ask Banner at JPL, he’s the resident expert on radiation and shit - but out there…I’d rather not bathe in radiation is what I’m sayin’, if it’s all the same. Repeat after me, Bucky Barnes does not want to glow in the fucking dark. Bucky Barnes also doesn’t want to get cancer. Bucky Barnes did not survive being a Comms-kebab to die from cancer.

Bucky Barnes is also wondering how long Bucky Barnes can speak about Bucky Barnes in the third person.

Bucky Barnes will stop now.

I think I’m cracking up a little. Wonder if that’s a side effect of the antibiotics? Huh. Hope so, or this is going to be a long four years on my own and it’s way too early to start going crazy already.

In other news, I think I know how to get around the food issue. Am I on a roll or what?

Remember my other specialty? Well maybe it’s not gonna be so useless after all!

You might ask, and I’m not gonna blame you for it– my own sister asked, with a totally uncalled for incredulity in her tone (if you have sisters you know the tone I mean) – why bring a botanist up to Mars? A place that is famous for its lack of…well, everything?

Allow me to enlighten you all.

My job was to figure out how, if at all, plants could be persuaded to grow in Mars’ gravity and if anything could be done with the soil. You might be surprised that the answer is: actually, kinda a lot.

While Martian soil does hold building blocks for supporting plants, there’s a whole buncha stuff missing that Earth soil has that is essential. Even if you took Martian soil, gave it water, gave it Earth atmosphere, it’s not gonna grow plantlife. It needs bacteria, proteins and a whole buncha stuff that I won’t bore ya with. I guess this is my autobiography, and nobody wants a boring autobiography. I’m sorry it’s not filled with more sex and rock ‘n’ roll. No, really. Nobody is more sorry than me.

The most important aspect of the Ares programme is determining the actual viability of maintaining human life, on a large-scale rather than just my skewered ass, on the surface of Mars. We can get around the radiation issue with fancy-ass shields, we can work on testing the water at the poles, but if we can’t get something to grow, we’d be fucked. In order to colinize somewhere, you gotta grow food.

Don’t I know it.

One of my tasks up here was to determine how well plants could grow on Mars in Earth soil, Martian soil, and a combo of both. The payload specialists that were aboard the Shuttle and ISS missions studied plant growth in atmo in micro-gravity which, thankfully for my increasingly skinny ass, found that there’s really no impediment to growing plants in microgravity like I’m gonna need to do, but I’m the first botanist on Mars to actually test the theory out long term, and need the experiment to work – Ares 1 and 2 were more about getting humans onto Mars at all and doing research into more immediate concerns like the radiation levels and shit like that. For this, I have a small sample of Earth soil. As well as a bunch of fern and grass seeds.

Before you get too excited, remember that I said a small amount of soil. Enough to maybe fill a window box like my ma has. And I don’t know about you, but I can’t eat ferns and grass. But I’m a botanist. A botanist on a fucking optimism kick. I’m gonna figure it out.
If not, I'll just be a starving optimistic botanist.

Welcome to ‘Operation Baptism By Fire.’

**Log Entry: Sol 13 (2)**

Remind me in future, don’t fucking read Barton’s medical texts for info on wound care. And definitely don’t let me read his backlog of journals on oncology.

I may never sleep again.

Seriously.

**Log Entry: Sol 14**

I’m gonna let you in on a little of my backstory. It’s my autobiography, right, so forget any Wiki shit about me, this is the real story. It’s relevant, I swear. I got my undergraduate degree from Columbia University. I have my own page on their site. Seriously, you should check it out; they’re super proud of their famous little alum.

It’s probably a memorial page now. Oh God, if it’s one of those fuckin’ annoying pages that starts playing music automatically upon opening it, so help me…And if it’s some Elton John bullshit I might die just outta spite.

A large proportion of the people in my department were stoners convinced they could return to some natural world system of gathering and no hunting, all living off soy chunks that looked like dog pellets and had to be soaked in water and had the texture of really chewy sponge. I’m all for environmental protection, but that shit is just nasty. Gimme a slab of cow any day. To be entirely honest, my fellow class-mates seemed way more interested in attempting to utilize their dissertations to better grow pot. They’d yet to solve world hunger but were all pretty freaking mellow about it.

I wasn’t a fan of them, the nausea-inducing odour that followed many of them around that was a mix of bad weed, body odour and manure, or their New World Order bullshit. While they were composting and conserving everything, I was getting eyestrain from rolling ‘em so often.

Oh how they shall laugh at how the tables have turned.

Bet they’d love this, the bastards.

I’m now saving everything. Every gram of bio-matter goes into a bucket I’ve strapped a sign on. ‘Bucket O’ Bucky’.

Every gram.
Screw being delicate.

Remember the lack of bacteria in Martian soil? This is the answer.

I got myself into a real shit-uation up here.

The Hab has a really complicated and sophisticated toilet. Your shit gets vacuum dried and sealed into a bag and every couple days, some poor bastard had to go outside, open the hatch, collect all the packets and then dump ‘em out on the surface.

How environmentally friendly are we? Seriously. We literally shit all over the planet. Guess Earth can’t be the one to have all the fun.

But I’m no longer on shit patrol!

My waste, like me, is teeming with bacteria, proteins and a bunch of other stuff that I can’t be bothered to explain, but is really important. Perfect manure. Earlier today I went on an EVA to collect all the bags outside. Between the toilet and the cold out there, the bacteria are long dead, but not so the other good stuff in there.

Next to the compost bucket is the shit container. I dumped a ton of water into it, along with everything I’ve excreted since I had the idea, and then stirred in all the dried…well, shit. The Hab smells, quite literally, like shit.

I have no idea what is wrong with some of my team-mates, but fuck me! Seriously, if anyone ever finds this log, tell Barton to get himself checked out, because how he was turning his rations into that, I’ll never know. Maybe years of pizza, coffee and beer being his entire diet has screwed up his system, but dude, get help.

On the other hand, I guess it’s a good thing that it smells terrible in here – the worse it smells, the more bacteria there is getting their groove on, and all is going well in my manure heap. So if stench is an indicator, it’s freaking phenomenal in the Bucket O’ Bucky’s Shit.

Listen to Farmer Bucky – don’t do this at home! Human shit has a whole bunch of pathogens in it that can make you turn all Linda Blair if you use it as a fertilizer on plants that’ll provide food you’ll eat. I’m okay ‘cause the grand majority of the shit is mine so I’d only contract pathogens I already have, but if the rest of the crews’ shit hadn’t been freeze-dried and desiccated it’d be unusable.

While it does its thing, I’m going to be turning the Hab into Kew Gardens, starting by bringing Martian soil in here and spreading it all around. The manure will go on that, and then a sprinkle of Earth soil on top.

For my plan to work, I’m going to be needing a lot of Martian soil and a lot of manure. Thankfully I got a planet of one and I’m always working on the other. What a time to be alive.

But I bet you’re asking yourself, why I’m bothering with putting what little Earth soil I have on top of all this lovely bacteria-riddled manure? It’s sorta like why I need food even if I’ve got the Costco vitamin tablets; the manure is great, it’s going to help a fucking ton, but it’s not enough on its own to make the Martian soil be able to sustain a plant. That needs the good stuff in the soil samples I brought from good ole Houston. And Kansas. And Illinois. And a few other places. Nice cross-section of the States. Once the Martian soil has been enriched with the manure and water, when I introduce the Earth soil, the bacteria in the Earth soil will breed like crazy, and voila, soil capable of maintaining life.

It’ll take at least a week before I can get creative and start ploughing my new field. Nah, instead, I’m
gonna double it. If your ma is anything like mine, sourdough was a big thing in your house. What I’m gonna do is pretty much the same idea as making sourdough – you begin with a starter. Then you take it and split it and refresh each of the two doughs by feeding it more flour and water, then you wait a bit and split it, add refreshments, then you split it some more…

You get the picture.

Basically, I’ll bring in enough Martian soil to match the Earth and once the bacteria breeds, that’ll have twice as much viable soil. Then I’m gonna bring in that amount of Martian soil, spread the viable soil on that and let the bacteria breed again. And again and again until the wound on my arm reopens and my back is broken from digging about in the dirt like a toddler on the beach. Double your pleasure, double your fun. Double your farmland. Another week, another double, another week another….

You get it.

All the while, I’ll be doing my best at providing more manure.

I’ve got to be real fucking careful though – the ratio of refreshments to starter is critical, extremely so in my case because if I add too much Martian soil to the viable soil, or if I don’t leave it long enough between splits, and there won’t be enough bacteria to go around. Now thankfully, as anyone who has been around a small kid can tell you, bacteria spreads like nothin’ else, plus I got all this fancy NASA shit to play with and I can take soil samples to make sure I’m not jumping the gun, but I gotta play it safe and careful.

Which are completely synonymous with the name Bucky Barnes, right?

Right?!

Screw you.

But given I’m not in fact a herbivore, despite the best efforts my roommate at college, what is the point of me making all this stench and dirt and mess? Just to make myself feel queasy and increase the risk of infection in my already fucked arm?

I’m glad you asked.

As I’ve said, I’ve been doing a lot of rummaging around up here and I’ve found all sortsa stuff I can plant. Peas, a few beans and the mother lode – twelve fresh potatoes. Sol 16 is Thanksgiving. Sam petitioned NASA that it’d be good for us all, as individuals and as a team, to celebrate the day by making our own meal with our hands, rather than eating something from a pouch that only a lab staffed by vegans would argue tasted like turkey. Garner cheered it on, and Stark and Fury agreed and it was signed off on, on the explicit instruction to Rogers that Clint was to be supervised at all times.

Barton, I love you, but you can’t cook for shit and it was for your own good.

As for you, Samuel Wilson, I could kiss you. If I live to see Ares 4 and strut my stuff on Earth once more, I’m smooching the shit out of you. Consider this your 4.5 year warning to slap on some chapstick and pucker up, big boy.

Y’all know you’d kiss the stuffing out of Wilson if you had the chance, and if you say you wouldn’t, you’re lying to either me or yourself. I might be ass over tits for Rogers, but I can tell you that Wilson is one hell of a hottie, even if he is a jackass.
If I can get those potatoes to grow, I’m in with a chance.

From the schematics – thank you Rogers and your perfectly organised laptop files – the Hab is a roomy 92 square metres. I’m happy to dedicate every last centimetre to my Farmer Bucky endeavours. That, and I’m a professional so you can trust me on this calculation, is a lot of fucking soil. Do you have any idea how many times I’m going to have to go in and out the airlock, with my trusty bucket and spade, seeing as how I can only get about one tenth of a cubic meter in there with me at the same time.

You guessed it, a lot.

Largely one armed and swearing the whole fucking time, given as how I think I should probably dig down a good way before collecting the dirt from out there; the surface is exposed to the most radiation. As we all learned from Chernobyl – or should have if you were paying attention in class you slackers – radiation in the soil isn’t great for growing stuff, and do you remember my oh-so-tiny fear of getting cancer? Well, I’m going to do everything I can to avoid it. Swearing and bitching the whole damn time. Did you really expect anything else from me? Really? Damn, you’re dumb if you did.

Where’s Thor and his muscles when you need him?

It’ll be worth the effort though. I’ll have 92 square metres of crop-able soil to work with.

Fuck yeah, Botanist Bucky at your service. How’s them potatoes?

There is however one big stumbling block. Remember all that soil I gotta bring in here? It ain’t as simple as just busting my ass and dragging half the outdoors indoors. Martian soil has high concentrations (0.5%) of perchlorates, a type of salt that’s hazardous to the human body. Because of course, nothing could be fucking easy. The perchlorates could make my life difficult one of two ways: either the plants just won’t grow, or they will, but the resulting crop will be freaking toxic. How toxic you ask? Well, the main application of sodium perchlorate back on Earth is rocket fuel. You wanna brush a nice glaze of rocket fuel on your brunch? No?

Let me guess, your next question is ‘if it’s in rocket fuel, how did it get up to Mars?’ No, we didn’t bring it. Humans mighta fucked up Earth, pollution-wise, but we ain’t quite branched out to wrecking this one just yet. Busted probes, landers, and Ares sites shit piles aside. The engines for the MDVs and MAVs, as well as the majority of the landers run off Hydrazine. For once, people aren’t to blame. It could be a few things; chloride rich soils will convert to perchlorate when in the presence of titanium dioxide and sunlight/UV, or the formation of perchlorate is associated with wide band gap semiconducting oxides, or...or you don't give a shit do you?

I'm tryin' to teach you something here. It's literally part of my job up here, but y'all don't care.

Before you get too disheartened, there is a simple fix. More accurately, it’d be simple if I were on Earth with access to as much water and time as I needed. Even without those luxuries, the actual process of making the soil usable isn’t hard - I just need to wash any Martian soil I use. Rinsing the soil with water, washes the perchlorates off and voila, the dirt is good. That was always the plan – if we’re intending to turn Mars into an agricultural colony, we’d need to grow stuff and the pesky perchlorates present a real serious fucking challenge to human settlement. I know that they’re posing a real problem with my settlement. I don’t even want acres, I just want one Hab of dirt that won’t kill me, is that too much to ask for? For fucking once, and let’s face it I was due, this is something I was actually prepared for. Thanks to the Wet Chemistry Laboratory on board the Phoenix Mars Lander, NASA’s known for decades about the perchlorates and so sent me up with all the things I need – some handy sifters for the ‘washing’, and a couple reverse osmosis filters. The RO filter forces the
water through a semi-permeable membrane so that the poisonous solute remains on one side and the solvent passes to the other side. I need the filters because the Water Reclaimer can’t remove perchlorates, it’s not what it’s designed for. A portion of the water was earmarked for my experiments and would have been kept separate from the drinking water and only gone through the RO filter.

Technically, the water I use for the washing would be perfectly drinkable after it goes through the RO filter, they’re that good, but I’d rather not test that theory seeing as I’m going to have to use the same small portion of water a million times. Sure, it’s gonna get filtered after every wash, but you ever seen a Xerox of a Xerox of a Xerox of a Xerox? You get my point. Given I’ve got no doctor and wouldn’t know what the fuck to do if I poisoned myself I’m gonna play it safe. That means regardless of how many times I put the water back through the RO filter after I’m finally done washing the soil, I won’t be using it for anything else – drinking, washing, watering plants - unless I have literally no other choice. Even then I’m gonna trawl through Thor’s notes in the hopes I find a way test the water that doesn’t involve ion chromatography because I don’t have the shit to do those tests.

The RO filters NASA sent can clean 50 gallons per day each and I got a bunch of replacement membranes (the membranes can last years back on Earth but the percentage of perchlorates in this soil is ridiculously high and the filter is going to be working 24.6/7, not that NASA anticipated that), but because I’ve only got a limited amount of water I won’t be diverting as much as the filters can handle a day into the washing. So that’s going to limit the amount of soil I can prep per day as it’ll take time for the water to be usable again.

So if I have the equipment necessary to wash the soil, what am I bitching about? Imagine I gave you a toothbrush and told you to paint the outside of your house with it. That’s the fucking problem. Technically the tool can do the job, it’s just gonna take you five years. The two sifters that I got are only about twice the size of a flour sifter – I was never meant to be churning out tens of square metres of viable soil, just a flowerbed’s worth. Over the course of a month. Between two RO filters, and the sifters, I’m going to be spending every minute between doublings preparing soil.

And digging the fucking stuff.

So that’s the plan. I’m gonna dig until I get a couple boxes worth of Martian rouge – swearing my ass off the whole fucking time - drag it and my sorry ass inside, wash the stuff through the sifters and look like I’m panning for gold while the water rinses the dirt through the various charcoal filters and across the superfine meshes. Then I’ll take what is essentially mud, and spread that out across the Hab floor in order for it to dry out, and pour the now-poisonous water into the RO filter and back outside I go for more back-breaking labour.

I have no idea how long this is gonna take. I’m trying to make a field with a fucking bucket and spade.

**Log Entry: Sol 15**

Fuck me sideways.

I was right: this is backbreaking. I need about ten cubic metres worth of soil to get 92m$^2$ to the minimum depth of 4 inches. Doesn’t sound a lot, right? I mean dirt is just dirt.
When you’re wrong, you guys are wrong.

Wanna know how much a cubic metre of soil weighs? Go on, have a guess. Pretend you’re at the fair or somethin’ or Coney Island and there’s a fluffy toy up for grabs.

No takers?

Anywhere from 1.2 to 1.7 metric tonnes. Yeah, you read that right, fucking tonnes. So I gotta move, at minimum, 12 metric tonnes of dirt into the Hab. I dunno if the floor can even support that shit without breaking something vital.

This is the part where you start asking me what the fuck I’m complaining about, ‘cos Mars has only 1/3 of Earth’s gravity, so it ain’t that bad. When was the last time you moved four tonnes of soil? Actually, it’s closer to five tonnes. Five fucking tonnes of soil that I gotta dig not with a Cat, not with something little bigger than a freaking trowel. So there’s that, plus the fact one of my arms doesn’t exactly work right anymore, and then there’s the whole ‘I’m in a space suit that’s not exactly designed for this shit’ and that I’m aware that the harder I exert myself, the harder I breathe, the faster I’m gonna burn through my CO2 filter. Not a walk in the park, but if you wanna come up here and show me how it’s done, fine by me.

Speaking of, hey Thor, buddy, how about you guys flip a bitch and come back and help out, yeah?

The sol had such promise; first thing this morning I decided to divert 50 litres of my water resources into the soil washing, which isn’t a lot – I’m going to be trying to wash 12 tonnes of soil with fifty litres of water. With the 50 litres I’ve already kept aside in case of emergencies with the WR, that leaves me 200 litres for everything else. With every load of soil I wash, I’m going to lose water into the soil, no matter how much I try to minimise that, so fifty litres isn’t gonna be enough, I know that, but it’s a jumping off point. As the soil dries, the water should evaporate off and be sucked up outta the atmo by the WR but I’m gonna have keep an eye on it.

The irony of needing the water to wash the soil that I need the water for is a laugh riot.

It was downhill from there, lemme tell ya. You wanna know how far I got today? 12 hours of EVA – twelve precious, precious hours - and all I’ve got to show for it is about 5 square metres worth of dirt. It’ll take weeks at this rate. Remember that mere 1,500 hours of EVA time?

I do. To really hammer that home, I spent, on Sol 15 out of a possible 1,500, 0.8 of a percent of my filter time. I don’t just need those things for this shit, I gotta keep the array clear, trips to weather stations, any home repairs I gotta do if another storm throws shit my way, not to mention any modification I gotta do to a rover to get myself to Schiaparelli ‘cause I ain’t walking there. If my progress carries on at this speed, it’ll take three weeks to get all the soil in, and that’s just the time taken to dig the stuff. I ain’t including washing it. I can’t be spending 16% of my filter time in the first month of living in this hellhole.

I might have spent a little time today freaking out over it, given how I just wasted twelve days’ worth of filter time. Just a little time. Ball-parking it, I’d say I maybe spent something like twelve hours shit terrified.

Shit! No. I was totally cool about it! How the fuck do you go about deleting parts of logs?

I will admit to it taking so long initially because I was super inefficient, because I was being stupid and following the Barton Method. Which is basically following the most ludicrous course of action possible because logic is for losers. I’d like to think that I was so fixated on just how little I could wash at a time, and so was only bringing in small container sizes at a time, just as much as the sifters
could handle, but we all know the truth – I was fucking up.

I needed 10 cubic metres of soil and there I was, spending my morning wandering back and forth in and out of the Hab with little boxes like I was heading off to school or something. Then I took my helmet off – gotta preserve that filter – and fed the soil into the sifter and panned for gold like it was 1848.

But doin’ it that way was shit on so many levels. First, I hauled a large container into the airlock and kept the outer lock open so I could just fill it up by taking multiple trips to the large container with my little box which completely nixed all the time wasted with multiple decompresses. I also threw out the whole concept of taking breaks from the digging to wash the soil. I can do that at lunch and later at quitting time, with another round of it all first thing in the morning before heading out. The digging is what is going to take the most time, so that’s gotta take priority. I don’t have enough water for all the soil I need yet, so 92m$^2$ of clean soil isn’t as useful as a few asap that I do have water for and can be using with the Earth soil to make it all viable for the plants. By the time the earth/martian mix is ready for doubling, I’ll have more washed soil ready to spread it onto. And hopefully a fucking idea how to get the water I need.

On the positive side, my arm is no longer bothering me.

Because my back, hips and hands are on fire.

The ibuprofen/paracetamol cocktail I was taking all day long was doing jack-shit, but the medical bay has vicodin, so I made like House and threw one back.

Even if it’s only 5 metres worth, seeing it all spread out on the tarp, slowly drying and safe to put my valuable potatoes into…I’m gonna forever blame the exhaustion an’ all, but I mighta cried a little seeing it. The idea was one thing, but today, shitty and inefficient as it was, proved my plan can work, that I can actually do this, that I can survive.

Y’know what’ll bring you right back to Mars with a bump after you get all misty-eyed at possibly not-dying?

Watering a bucket of shit.

Ain’t my life just brimming with excitement? I’m a one man chain-gang with a side business in shit manufacture.

They really outta put that in the brochures:

*Join NASA, explore the universe, cultivate buckets of shit in your living quarters.*

I did manage something right this morning, however, before I over-indulged in the Barton Method, which I was pretty fucking impressed with. After a hearty breakfast of a cup of soup, I prepped the RO filters and sifters and double checked the tarps that are protecting the equipment from the theoretical water I’m going to summon forth one day soon. In a masterstroke of procrastination – five tonnes of soil was all that was waiting for me once my working day started– I meandered down to the Med Bay. I was looking for NSAIDS for when things definitely got shit later on (what can I say, I’m an optimist), but what I found was far more interesting.

Methylene blue.

Which is, ironically enough, a dark green in its powder form. Its colour is totally fucking irrelevant, however, and I bet you’re wondering why the fuck I was so excited to find a vial of this shit.
Because I can use it to test the water I’m using for the soil washing for perchlorates after it’s been through the RO filters. Which means that the water I’m using for that might be drinkable later after all. Sure, I’d still have to test it for any other shit that might kill me, but if the filters can definitely get all the water pure again, at least from a perchlorate standpoint, that water might be safe to utilise rather than just having to toss it out onto the surface because it’s liquid death.

Methylene blue was in Barton’s kit for treating dangerously low blood pressure which astronauts can be prone to in low gravity and that were recorded from the from first two Ares missions, something to do with how the cardiovascular system basically gets lazy up here. Prolonged periods in space, like the year spent on Valkyrie and a month on Mars, cause the blood and fluid in your system to shift from your lower body to your upper and strains your heart due to the burden of the blood volume, not to mention you can look like shit as your face and neck swell up, veins protruding everywhere. While NASA was expecting the Ares astronauts to experience low blood pressure, it was never expected to get as low as it did in some cases and since Ares 2 Methylene blue has been shipped up with us. Given I’m gonna be here for four years, I’m kinda happy it’s here. I’d have to read Barton’s notes on how to administer it to myself if I need it, but thankfully I already know how to use it to stain test samples.

Technically it’s not a ‘test’ as such for the perchlorates, so much as it is a stain, but you can’t stain what ain’t there, so I figure it’s much the same thing. In the presence of perchlorates, a 0.3% solution of methylene blue will form an insoluble purple coloured solution (why the fuck is this stuff called ‘blue’?) and you’re left with a purple precipitate. No purple gunk in the water I’m testing, no perchlorate. It’s a pretty damn sensitive test too so I was feeling pretty fucking pleased with myself.

Procrastination works, don’t let anyone tell you different.

Log Entry: Sol 16

My Bucket O’ Bucky’s Shit is coming along nicely. Every day I add more shit, and every couple days I add a little more water, stir it up, all that jazz. The stink off it is indescribable, but the worse it smells, the better it’s going to be for the Martian soil. So from the stench of it, that’s one bacteria laden cesspit. The stench kinda reminds me of home.

Besides, it's a welcome change from being able to smell myself. Contrary to what you might think, you don't actually sweat too much in the suits. They do have small heaters but they're not all that swell at their job- Mars is cold so it's quickly leeched out, so you stay pretty cool in the things. Not so in the Hab. She’s getting good and humid now, not as bad as Brooklyn in August, but still humid enough that when I start dragging dirt around and shoving it about and all that stupidity, I started to sweat like crazy. So I ain’t exactly soapy fresh. I’m basically offending myself at this juncture.

Guess it’s a good thing Rogers isn't here for this- I can't imagine what I look like. Guess who doesn’t need hair gel anymore? My hair can damn well stand up on its own and I’m not gonna lie to you guys, that’s kinda pissing me off. I’ll have to see what I can do about that at a later date. Sadly I'm all too aware of my eau de desperation. Until I figure out how to water my new farm -take that Barton, I got a farm before you, but let’s just hope I don't buy the damn farm, yeah? - I'm not wasting any with washing myself.

Water.
What is it good for?

Absolutely everything.

I should probably explain I've been listening to the music collection that Sam brought. Man is eclectic I'll give him that.

But back to the water. I feel like I’m in ‘The Ancient Mariner; ‘Water, water, everywhere, And all the boards did shrink; Water, water, everywhere, Nor any drop to drink.’ Do they even make kids study that at school anymore? Miss Hunt used to make me stand up and recite portions of it from memory. Was always shit at it, and even now those are the only lines I remember. That and the albatross. I remember writing that the freaking poem was about one man’s journey for self-discovery as he learns how to interact with Nature rather than try to control it, and how he had to come to appreciate the value and beauty of just how small and unimportant he was in the grand schemes of things. Some bullshit like that.

Guess Miss Hunt and Coleridge are having the last laugh. Me and Nature…we’re gonna come to blows if we can’t get along. Because every time I come up with a way to survive, nature knocks me back on my ass.

What the fuck am I blathering about?

Water.

Take it from a geek with a master’s degree in botany; plants need water.

I have water.

So what is the problem?

I don’t have as much as I need. Not even close.

Viable soil needs about 40 litres per cubic metre. Like I said, I’m gonna have, at some point, an entire Hab of the stuff. As well as some herniated disks. Trust me on the math, but that means I’m going to need 368 litres of water.

For everyone playing at home, that’s a lot. That’s more than one of those big free-standing bathtubs you can fit two people in all filled up to the brim.

What have I got?

Well, I’ve got not enough water for the soil and me to drink. And I’ve got a planet that does have water, of a kind, but at the poles and a some at lower latitudes, in ice form and a long way away from me. Not to mention even if I could get to the stuff, I don’t know how far down it is, I don’t have the equipment to chip blocks out and I have even less of an idea as to what might be in that water. I wouldn’t drink it for fucks sake, I’m not suicidal, but you know the whole not wanting to grow my plants in radioactive soil? Well pouring water with fuck knows what in it onto them won’t exactly be my safest move ever.

So, what else do I have?

I have the Water Reclaimer. It’s the best money and science could create, a real beauty when you pop the hood and get a look at her wiring. As a result, NASA didn’t really wanna send a lot of water up here for emergencies. Water is heavy – ‘a pint of water weighs a pound and a quarter’, as my nana would say. Weight isn’t something ascent vehicles want much of, so for six people, they
sent 300 litres up and that can get filtered and purified as many times as needed for more than long enough for a single mission. I’m just really hopeful it’s going to be enough for four years.

It’s not going to be enough for the farm, even if I devoted all of it to the soil, which I ain’t willing to do. I got 50 litres in reserve in case the Water Reclaimer breaks down and it takes a while to fix, that leaves 250 litres, which is only 67% of what I need and so will only provide enough moisture for 62m worth of soil, not 92.

Of course right now, it’s not the biggest of issues; after my back breaking day of hell, I only managed to bring in 5m² so it’s not like it’s going to be something I need to solve right now. But it did weigh on my mind all day, so to cheer myself up, I made a planter out of some of Nat’s abandoned clothes because they were too small for me to steal. Carefully added the Martian dirt, and then the real fun began.

The shovelling of the shit.

The less said about that the better. Hopefully I’m gonna get used to the smell soon, or my sinuses are going to melt. It’s not like I can crack a fucking window, now is it?

With a sprinkling of Earth soil on top, the dirt trifle was complete. Go forth my bacterial children and propagate. Someone on this mission might as well get laid.

In other news, today is Thanksgiving. What with me having died ten days ago, I’m guessing mom and Becca aren’t exactly in the mood for pumpkin pie and stuffing.

For all I know they’ve just gotten home from the funeral. I wonder if they buried an empty box or just had a memorial.

I’m so sorry ma.

I swear I’m doing everything I can to survive and make this up to you.

I love you.

I’m here.

I’m working out how to come back to you.

Have some pumpkin pie for me.

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**Log Entry: Sol 22**

Guess who has been having an awesome few days?

It ain’t this guy.

Why?

I hate dirt. I hate it. Fire of a thousand suns level of hate. I’m pretty certain the shit is mocking me. Why is dirt so heavy? Do you know what it’s like to be a botanist that has developed an all-consuming hatred of dirt? Especially one that is turning his new home into dirtapalooza?
My back hurt so bad after the first couple days of acting like a backhoe that I took a day off to play handyman. With some judicious skill – hit it with a rock – and some coaxing – use of really sharp shears – I stripped some of the outer hull of the MDV.

To what end?

To make a border around the floor of the Hab.

When I do fix the water problem, I don’t want any running off where I don’t want it – like down the corridor to the sleeping quarters or the medical bay. The first watering I’m gonna have to really saturate the ground and I’m not losing water, not after I manage to make it.

Hence my bodged together border. It’s not exactly water-tight but it’ll keep the dirt at the depth I’ve decided on – about 4 inches to start – and stop any spreading of the water. I can’t weld the edges together, but with some putty and some purloined tarp at the edges, it seems to be holding up pretty well on the test areas. Besides, it gave me some time off of dirt hauling and I guess I hoped that if I changed up my routine a bit, I’d come up with a way to figure out water.

I think I have an idea, but I don’t wanna say in case I can’t make it work.

My autobiography, I can be as enigmatic as I want.

But that’s not all that’s been going on. I’ve been keeping a really close eye on my arm. It still hurts like fuck, and I can’t really raise it above shoulder level, but my fever is right down, only a few points of a degree above normal and shoulder level is way better than the few inches I could manage before. The infection in the muscle doesn’t seem to have come back, and it’s nowhere near as red or hot. Given I was lanced like a boil sixteen days ago, I’m pretty happy with the progress.

Staples came out this morning. They probably should have come out a few days ago but I have had more important shit to do. They were starting to work their way out of my skin as my body tried to reject them and they were catching on my clothes and bandages so out they came.

Hallelujah.

Turns out I'm sensitive to nickel. What's in the staples?

I've been itching and scratching like a kid with chickenpox.

It took me a while to find the tool to remove them, and it looks like the bastard child of Nat’s eyelash curler and a regular staple remover. They’re out now and the wound looks good. Because I’m deliberately creating as much bacteria as I can and there’s shit literally all over the place, I’m still slapping bandages over it just in case, and alcohol wipes have become my new best friends.

Back to the farm.

Two-thirds of the Hab is now covered. Once I started using the Barnes Method of dirt transfer it went a hell of a lot faster and with my left arm back in the game a little, I was on fire.

Probably shouldn’t say the word fire in an oxygen rich atmosphere. You think it’s better or worse than yelling it in a crowded theatre?

Today, and contain your excitement, God knows I managed to, I did my first doubling. Between Earth soil and the Bucket ‘O Bucky’s Shit, the Martian soil is rich and bacteria laden. Couple more doublings and my field of dreams will be complete.
Water it, and they will grow.

All that went a great way towards my whole optimism thing.

But on this new rollercoaster that is my life, while I had dinner and listened to Sam’s music, I crested the optimism wave and went screaming over the edge into depression valley.

I’ve done more maths. Remember being in high school and thinking you’ll never use all that shit in your real life and spend your class glowering at the chalkboard?

Well, if you wanna survive Mars you use it daily.

My little farm isn’t going to stop me starving. My best bet is the potatoes. They grow fast and they’ve got a decent calorie content with about 770 per kilo. I’m pretty certain the ‘taters I got will grow.

Fuck you Atkins diet.

Problem is, in the 62 square metres I can use to grow, in 400 days – how long until I starve because the food packs have run out – I can grow only 150 kilos. Sounds like a lot right? It’s about 115,00 calories, which you’re going to still tell me is a lot. But over 400 days – the time it’ll take me to grow that amount again - that’s only 288 calories.

I’m no Thor or Steve, but I’m still a decent sized guy. If I’m willing to starve a little, I’m gonna need 1500 calories a day.

Not even remotely close.

One might even say, not on the same planet.

Ah, gallows humour.

My little farm is gonna help, but it’s not gonna sustain me for too long. It’ll buy me about seventy-six days.

In those seventy-six days I can grow another 22,000 calories, which will net me a further 15 days.

So instead of kicking it on Sol 400, it’ll be Sol 490.

When does Ares 4 get here?

Sol 1412.

I need another 1000 days of food.

That I don’t have.

That I have no fucking idea of how to get.

Fuck me sideways.

Chapter End Notes

I can’t believe I just corrected some of the science from The Martian. Only because at
the time of writing neither Weir nor anyone else knew about a particular step that was necessary to ensure the martian soil would be viable. I did know about it, so figured I'd make it even more accurate. The weight and volume of the soil required is as accurate as I could make it so hopefully it's right.
Chapter Summary

Bringing in enough soil is only part of what Bucky has to face - he's got to figure out how to make water and how to survive four years alone.

Log Entry: Sol 25

I’m dead if I can’t make enough food to live to see Ares 4. If they don’t come I’m dead anyway, but in order to find that out, I gotta live.

So that’s my goal: convince myself that Ares 4 will continue even after my ‘death’ and survive the next four years.

That’s a pretty dramatic chapter opening in this autobiography, huh?

If E.L. James can do this writing thing, I can definitely do it. And no, I’ve not read any of her shit, but Becca has and delighted in texting me shitty paragraphs from it as she went. Used to read ‘em out to the crew when we were training – Natasha fell off an exercise bike once because she couldn’t laugh, peddle and breathe at the same time.

God I miss that woman.

When Becca finished, she ritually sacrificed that shit to the BBQ pit. If someone does that to my book, can you guys take it home first? Let my ma and Becca know what really happened to me. Rogers and the crew too. They don’t deserve to not know how it all went down. They’re all good people, great people and they don’t deserve to think it was their fault. And they will. They’ll blame themselves until the day they die. If I could tell ‘em I would.

That’s the sort of shit that I miss most, you know. Knowing what’s happening with my family, those everyday little ways you all kinda check in with each other. Most of the ways you communicate with your family ain’t deep and meaningful, it ain’t all grand gestures and declarations of love and support. It’s shallow and fleeting and half of it is pointless but is, ironically, the important shit of life that reminds you who you are, and why you love these people. I miss getting random pictures of stuff my sister thinks is interesting; the all capslock messages my ma would send me ‘cos she doesn’t know how to turn ‘em off; the drunken messages Dugan used to leave on my voicemail with his shitty singing; Gabe sending me texts not to forget about his new radio show…

I miss human contact is what I’m getting at.

I miss birds, and dogs, and fresh air. I miss pizza, and baseball, and driving.

But it’s people that I miss most. Don’t get me wrong, I ain’t the most gregarious of fellas, but I like having the option. I like knowing that if I wanna see people, all I gotta do is open my apartment door and I got all of New York at my feet.

Being king of Mars is lonely. Heavy is the head that wears the crown.

I think my optimistic streak is suffering a blow…can’t help but think the enormity of what I need to
I could barely force my way out of bed this morning. I tried to tell myself that it was because every single part of me *aches* from hauling dirt around; even having modified a meal-tray into a sorta scoop, that shit is exhausting and it’s all I do while the sun shines. I’m not so self-deluded to have believed it though.

I miss home.

Sometimes I miss home so much it’s paralyzing. So much I feel like I can’t breathe or I’ll break apart. I stared at the ceiling of my bunk for over thirty minutes before I could talk myself into getting up this morning. When I finally had been able to roll up and sit on the edge of my cot, the hard plastic digging into my thighs hard enough for me to wince, I’d been surprised to find I’d been crying, my pillow wet.

All I wanted was to curl back under my blankets, pull ’em over my head and just…

Give up.

This shitty little voice in my head was on repeat, whispering that I had no chance of surviving, that it was too big a mountain to scale, that I should just stop kidding myself.

Thing is, I’ve heard that voice before.

It was the same voice that told me my family would fall apart when my dad died. Same voice that told me I’d never graduate college because no other Barnes had ever been to college before and I’d flunk out because I was over-reaching myself. The same voice that tried to get me to listen that NASA would never accept me.

I’ve told that voice to get fucked before.

My family survived. I’ve got a fucking PhD. I’m on fuckin’ *Mars*.

In my experience, trauma elicits one of two types of response: you break or you cope. Now breakin’ don’t mean you’re weak, breaking can be cathartic as shit, crying or screaming it all out, before you can start to rebuild. I normally fall into the ‘cope’ category. Coping ain’t always healthy, especially not the way I do it. Sometimes it’s shoving down everything you feel, everything you want and trying to ignore it while you fake it ’til you make it. That’s the sorta coping I’m a professional at; I suck it up and power through using rage alone until the break is *so* much more dramatic than if it’d happened the first time.

It’s the bane of my ma’s existence.

Right now, however, right now if that is what gets me outta this bed, gets me on my feet and out that fucking airlock, if cold fury is what gets me up, unhealthy or not, it’s what I got. Love of my girls will power me through all that digging, but anger is what’s gonna get me outside. Anger that I’m stuck here, anger that I’ve caused my girls pain, anger that I’m gonna die…

It’s a motivator all of its own.

I told you that my dad once put those glow in the dark stickers on my ceiling. I had to work fucking hard for it, and sacrifice more than I can remember, but I got my dream, I got to NASA and I got on Valkyrie. Against one wall in the Hab, we all stuck up pictures of our friends, our family, even Clint’s dog Lucky and Sam’s falcon Redwing. The pictures have a weird gloss to ‘em because of whatever the fuck they’re printed on that ain’t paper, but that’s okay, the light in my bunk don’t shine
off ‘em the same. I stuck ‘em all, from Becca to Redwing, to the top of my bunk and down the wall. Not an inch of cold, impersonal gray plastic can be seen.

That’s what I want now. That’s what I’m working for. I wanna see my girls. I wanna play Frisbee with Lucky again. I wanna watch Redwing ignore Sam’s commands. I wanna meet Peggy, and Tandy, and Barney. I wanna watch Michael graduate and film Sam weeping as that kid crosses that stage. I wanna ask Steve out.

That’s what I want.

That’s what I’m gonna see every single fuckin’ time I get in this bunk.

I’m gonna have to work for it, but I’ve never wanted anything more.

Fuck you, little voice.

Fuck.

You.

I’m gonna survive. I’m gonna get home. That’s what’s gonna happen. That’s the only acceptable outcome of this shitstain of a situation.

I take vows seriously. From Cub Scouts to the vow I made my father that I’d keep our family together and I’d look after our girls, any time I swear to do something, I’m gonna do it. It ain’t easy, and sometimes it seems there isn’t a way to figure out how the fuck I’m gonna do it, but I promised my girls I’d come home.

So that’s what I’m gonna do.

Optimism ‘R Us.

First, I gotta stop worrying about shit like Ares 4. That ain’t something I can control. It’s easier said than done; when you spend most of the hours you’re awake scooping dirt, the mind wanders. I’ve tried playing some of Thor’s Icelandic rock music as loud as my eardrums can handle to drown it out, but that ain’t as effective as I’d like.

Plus, I’ve started singing along and I don’t know how I feel about that. I don’t know what the fuck I’m saying, and I’m probably saying it wrong, but still, there’s principle at stake.

I gotta assume Ares 4 is coming.

Second, I gotta think about what I truly need. Beyond dirt.

I’ve got NASA’s Costco multivitamins. I got food packs with five times the minimum amount of protein so I’m all good with those. So what I truly need now is calories.

1,500 of them a day for preference, and even that is pushing it, seeing as how a guy my size really needs more like 3,200 up here. That’s not so much a diet as it is barely staving off starvation. What with how I’m trying to haul half of Mars into the Hab, I probably need more like 4,000. Even when I’m done with that, and my physical exertion levels drop, 1,500 is going to be cutting close to the bone.

No pun intended.

I need 1,400 days of food. Taking into consideration the 400 days worth I already got from what we
brought with us, and sparing my autobiography the boring calculations, to get to day 1412, I figured I need to be creating 1000 calories a day.

Just as I was freaking out over how the fuck I was going to be doing that – do you have any idea how many potatoes that is?! - was when I came to the screeching realisation that I fucked up again.

Go on, try to hide your surprise, I dare you.

I don’t have any coffee and after more than half my life spent as a student and working through all-nighters, I need coffee to function. If it’s roughly enough caffeine to kill a rhino, it’s just enough to keep my going.

How have I fucked up this time?

In a whole new and special way. I do like to keep this shit fresh for you guys.

I was checking my maths when it hit me – my calculations, while correct, are also bullshit. They’re correct if the plants were already grown and growing happy little taters. But they aren’t, they aren’t even planted. Fuck, I haven’t even got the whole farm’s worth of dirt in yet, let alone even figured out the water issue.

So, I need to take into consideration a) the time it’s going to take me to bring in the rest of the dirt, b) the time it’s going to take me to figure out the water issue, and c) the actual growing of the plants. I don’t know the exact numbers, because my head started to hurt and I was getting fucking depressed again, but I think I’m off by about somewhere around a whopping 50%.

What I can tell you off the top of my head, is that Barnes Farm isn’t big enough.

Steve, I’m talking about the dirt, not other things. Other things are more than big enough. Seriously, you got no worries there.

Just saying.

While some things might not need expanding, Barnes Farm sure does; my current plan is already to turn over all of the Hab, which is a cool 92 square metres. There are five empty bunks – sorry guys but thems the breaks. No sleepovers for me - and that’ll get me an extra 10 square metres all told. Not to be sneezed at. I might have to create some sort of tarp bedding for the bunks, but I can do that, I’m a handy guy. Besides, if first graders can grow watercress on a flannel, I can grow potatoes in a bunk. They’re slightly recessed, where the (way too) thin mattress sits, so assuming that’s sorta watertight – I haven’t checked yet – I might not even have to do anything other than rip the mattresses out. And add them to mine because damnit I wanna be comfortable if I’m up here for four years and I ain’t above a little princess and the pea action.

I can net another four square metres by sacrificing two of my three available lab tables. I still gotta work, so I’m keeping one back. If I need more space I can use the floor in the med bay or sleeping pod. I was a PhD student – I can make a work surface outta anything.

Sleep surface too, if it comes to that.

That’s a total of 106m².

What else?

Rovers, I hear you say.
No, I answer.

No really, *no*.

I know, I really talked up the fanciness of the rovers, and that fanciness sounds like they’d be ideal, but they’re cramped inside, no matter how fucking cool they are outside. I’d have to use suit filter time, getting to and from the rovers, and eventually those few minutes worth would add up, eating away at my 1500 hours just in jaunts to my adjunct farm. I know I keep going on about how limited my EVA time is, but that’s ‘cos it’s weighing on my mind like I can’t describe, especially seeing as how I spend pretty much all the daylight hours burning through my filters to get in enough dirt. I might have gotten a fuck of a lot more efficient since I ditched the Barton method, but that doesn’t mean I’m not spending a week’s worth of time each *day*. Plus, I need the Funvee to get around, and Rover 2, which I might or might not have dubbed R2D2 – don’t fucking judge me, you *know* you’d do the fucking same – in case Funvee breaks down beyond what I can repair. Oddly enough the AAA doesn’t actually cover Mars for roadside assistance.

But while I had to dismiss my initial thought of using the rovers, it was enough to give me a far better idea. The rovers have emergency pop tents, one tent per rover, which can, through various tubes and feeds, be hooked up to the rover to allow the flow of oxygen and heat and whatever the fuck else my beloved plants will need. The wonders of science, boys and girls.

My pop-up farms will give me another 20 square metres of farming which ain't to be sneezed at. The tents are designed to withstand pretty much everything the Hab is so they’re pretty perfect. They’re mini-Habs that are deployed when the rover loses integrity; astronauts decant into the tent and await rescue by whichever white knights are dispatched to get ‘em.

See that, Wilson? *I am* capable of adapting to new circumstance and overcoming a problem regardless of what you said up on Valkyrie when you stole my favourite socks. Jackass.

So between the bunks, tables and tents, I can basically *double* the size of my farm from the current 62 square metres I’m aiming for – and have enough water for - to 126m.

Which means even more dirt.

So much more fucking dirt.

Fuck me sideways.

I don’t know how much longer I can keep up the pace I’ve managed. I've gotten way more efficient by the expedient method of taking two medium sized tubs out onto the surface with me. I use the trowel to churn up the dirt - letting my left arm rest against my side because fuck it hurts - and then I tip the tubs onto their sides and, using the tray-scoop, scoop as much into the tubs as I can and then right the tub. That way I'm only having to lift a few scoop-fulls each time to spare my shoulders. Then I drag the tubs to the big one in the airlock. Even doing that, I am too fucking young – and good-looking – to be over the hill already. *My hair* freaking hurts. Pretty sure fingernails shouldn’t throb. My left arm wants to fall off and when it doesn’t, the rest of my body just wants to cut it off and I haven't been able to lift it more than a few inches before it shakes so much it might just *fall* off. My knees pop every time I sit and I’m seriously in need of a fucking bath.

Speaking of baths, water is another hurdle, which is also, incidentally for those paying attention, the third thing on my list.

It’s a big fucker.
So far, every time I run at that one, it takes me out at the knees. If I can’t go over it, I’m gonna have to limbo underneath or some sorta metaphorical shit like that. I’m still ruminating on that idea I had, and if you think limbo-ing under a hurdle sounds stupid, you wait until I let you in on that idea. Assuming I do. It is categorically ridiculous. It makes the Barton Method look positively Mensa worthy.

And yeah, I’m still gonna be enigmatic about it until I can find a way to do it that doesn’t involve death. Which ought to clue you right the fuck in to how stupid this plan is. However, given my day to day life is essentially an exercise in dying slowly anyway, what’s the harm?

Now, I’ve also done some other scrappy maths and ideas. Everyone at school learned about rotation farming – and if you didn’t it’s because you weren’t paying attention, slackers – in that you should rotate the types of crops you grow in any given soil because if you grow the same thing year after year, certain nutrients are going to get leached out and the soil will become useless, whereas if you rotate, different crops need different nutrients and so things can recover. Now that isn’t the fastest process, so my growing only potatoes in my farm isn’t going to turn the soil back to desert for a while, somewhere like a decade. If I haven’t managed communication by then or Ares 4 hasn’t come, I’m a dead man anyway, so it doesn’t matter.

Why have I been having such up lifting thoughts, you ask?

Because I was thinking about the conditions for my plants, and there might be some good news mixed in with the bad. I based most of my maths on what is known on Earth. But I’m not on Earth, am I?

Let’s start with the worst shit and build up to the good shit. I ain’t gonna bore you with showing off my knowledge of columella cells, starch-filled amyloplasts, but take it from me, plant life kinda depends on gravity, and auxin transport, which is regulated by gravity, plays an important role. We know that. Known it for decades. How is gravity important? Pretty much the reason you think, jackass. Plants use gravity to orient themselves – roots grown down, shoots grow up. Simple, right? But even with minimal gravity, during experiments aboard the ISS plants grew relatively normally.

Key word there, ‘relatively’.

My precious plants are gonna grow, that I can almost guarantee. If they’ve got water and nutrients, they’ll grow. But they might be twisted up or have roots growing upwards because they can’t develop their root-shoot orientation.

Try saying that five times fast.

That could lessen the yield.

What a lot of people don’t know about Martian soil, beyond that it’s pretty fuckin’ barren, is that it’s super fine. When I do water it, there’s a much greater chance the water will just seep through and the soil will dry out more quickly than I’d like and I’d be chasing my own fucking tail trying to keep the soil moist rather than just wet underneath. That’d affect the output. I’m hoping – well, science is on my side so it ain’t a completely groundless belief – that the fertilizer, aka my shit, will not only provide the nutrients the soil needs, but also change the texture of it enough that the soil will hold onto the water so I won’t have to spend all fucking day watering 126m$^2$ of dirt. I’m gonna have a shit tonne of other stuff to do if I’m gonna get to Schiaparelli. The less than optimum conditions could also lessen yields.

So why am I not sitting in a ball crying?
Optimism ‘R Us.

How have you forgotten that already? Are you secretly goldfish?

Also, science.

This ain’t no chemistry fuck around, this is botany. It’s clean, it’s beautiful, and it’s gonna save my life.

Fifteen years ago a study determined that actually tomatoes, wheat, cress, and a couple other species of plant grew better in simulated Martian soil – the catchily dubbed Johnson Space Center Simulant 1 - even without fertilizer, producing flowers and seeds, than they did growing in Earth soil from a river bed.

Fuck yeah.

Why is this so exciting to me?

Y’mean beside the fact that Martian soil clearly can support some life?

Tomatoes and potatoes are related. They’re both nightshades. If tomatoes can do it, no reason my potatoes can’t. Potatoes are hardy fuckers – unless they get too cold, but that ain’t gonna be an issue – so they should do just fine.

What else?

My farm is little. For once I ain’t bitching that it’s too small. Little is good right now. I can give each plant that grows daily attention to ensure it’s growing to the best of its keeping-me-alive-capabilities. If I plant a seed potato every 12 inches – it’s tempting to plant ‘em closer to each other but that actually limits the yield of each plant so while you’ve got more plants, you don’t get a higher number of potatoes– with about three feet between each row, I’m gonna have a good few hundred plants. But that’s totally sustainable for me to assess every day. A farmer than has hundreds of acres can’t devote the sorta time I’m gonna have. I’m literally gonna be living with my plants. Except for the pop-tent mini-farms, I’m gonna be walking past the plants every day. One of ‘em so much as drops a leaf or droops a stem, I’m gonna know about it. That’s gonna ensure the yields are as high as possible because the plants are gonna be pandered to like nothin’ else. I’m gonna, slowly and over time, be bringing in more soil too.

Why? I bitch enough about the soil I gotta bring in now.

Higher yield.

I’m gonna earth up the potatoes as soon as they’re ready. The tubers grow just below the surface of the soil. When the first tubers develop, depending on the variety you got, you earth up around the stem, adding a few more inches of soil around it. This causes new tubers to be growing above the older ones, increasing the yield by anything up to twice as much. You can even repeat the earthing up a few times.

Why am I not just burying them deeper in the first place?

Do you not pay attention when I talk? Did your parents not raise you right?

The tubers grow just below the surface. Burying ‘em deeper doesn’t change that. Deeper ain’t always better, no matter what porn might tell ya. Listen to Farmer Bucky.
Another thing on my side – totally artificial environment, completely minimizing any stress plants normally encounter. I don’t just mean that I don’t gotta worry about shit like wind which’d make the plants waste precious resources thickening their stems, no overcast days because it’s all fake-sunshine all the time, no storms to rip plants up or outta the ground entirely, no drought – once I figure out the fucking water problem – and thanks to the Hab canvas there’s also no radiation. I’m talking about how there’s no weeds, no bugs, no animals nibbling here and there, and no disease to spread like wildfire.

With all that, between the pros and cons, I reckon I can expect at least a 50% higher yield. With my 126 metre farm, that’s gonna get me 900 calories a day.

Fuck yeah science!

I’m still at risk of starvation – I will be starving, it’s less than a third of what I should be having - but survival is looking more attainable. I might be a bag of bones when I wave hi to Ares 4, barely able to remember my own name and mentally and physically compromised as fuck, but I won’t be dead. I can do a lot with not being dead.

Ares 4 will have their own doctor, one who might, if I can figure a way to let Earth know I’m alive, know I’m here and be stocked and prepared for any shit my physical state is going to throw at them.

There are ways to reduce my calorie needs: do less physical labour, up the Hab temp so I’m not expending calories to keep warm and if it comes to it, my left arm can be sacrificed for BBQ.

No, not really. I’m not turning this into ‘Alive’.

If I get real desperate, I can even sacrifice a few of my larger tubs – a few drainage holes drilled in the bottom, half fill with modified Martian dirt, some fertilizer and tub-farm. Each would only be able to support a handful of plants, but each harvest would get me a handful of potatoes from each plant.

Guess I’m doin’ it, huh?

Even more dirt to haul.

Ugh, I don’t wanna.

Having thought I was done with the shovel stuff - oh, yeah, as of yesterday evening I have 62m worth - I’m not looking forward to tomorrow. The damn things they sent up here with are more like trowels than shovels – they’re designed for taking samples not digging me outta my own grave - and even my tray-scoop isn’t exactly a back-hoe.

And now I have to go out there again and collect twice as much dirt as I did before, and that’s just to start. I get to take a break for a couple months, and then I’m gonna need to start bringing in and prep-ing the dirt for the earthing up.

All that extra soil is gonna want 250 litres of water at minimum, more by the time I’ve earthed up a time or two. So I’ve gone from not having enough water and needing over a bathtub full, to really having not enough water and needing about two full bathub’s worth.

I do like to set myself a challenge.

You know that big paper thermometer places use when they’re fundraising and instead of temperatures up the side, there’s a dollar amount and people would colour in up to the amount
raised? My church used to have ‘em all the time. New roof, new organ pipes, new choir robes…

Of my 250 litre water goal, I can colour in none of my thermometer.

It’s my Hab wall, if I wanna draw on it you can’t stop me.

Fuck it, its bed time.

Log Entry: Sol 26

No coffee, no thinking. I’m sick of thinking, so it’s back to good old fashioned manual labour. I was always good at that. You should see my one arm pushups.

I think my nose is broken or failing or something; I can no longer smell myself, even when I make like a windmill. It was to stretch my shoulders out, before you ask why I was waving my arms around like I just don’t care.

God-damn it Wilson! I gotta listen to someone else’s music. Half of your shit sounds like it’d be used in one of those aerobics videos my ma uses. I don’t know how good of a workout she’s getting from them – if she’s got enough breath to scream at the TV, I’m thinkin’ she ain’t working hard enough.

That’s right, I inherited my bitching gene. If you think I’m good, my ma is a professional. She ain’t as prolific at it as me, but when something does piss her off, clear the decks, she’s gonna blow.

My nose could be in perfect working order, but my personal eau d’stench can’t complete with manure-o-rama that is all over the place. Even still, after twenty days without a shower – I couldn’t shower when I had the staples in and then I literally didn’t have the time to shower what with the digging and dirt washing - I think my clothes could stand up all on their own.

Something else I need water for; laundry.

It's not like I care that I probably now smell like the floor of the elephant house in a zoo, ’cause no amount of Tide is gonna do a damn thing against shit-central out here. It's a bit more personal. Sure, I know guys get a bad rap for being kinda scuzzy with our underwear, but there really is a limit to the 'inside out and back to front' approach of getting a lot of wear from one pair.

Let's get indelicate for a moment: underwear shouldn't be crunchy.

Welcome to the glamorous life of space travel.

I spent my day making like a washer woman. I rigged up a really crappy washboard from a couple of Barton’s large sample trays and gluing strips of microscope slides across it. Me and my underwear then got into the shower and rub a dub dub.

I dunno if they're any cleaner but I feel better about it and all my pairs are currently drying along a line I rigged up over Barton’s bunk. By ‘my’ pairs I do mean everyone’s but Nat’s. Hey, they left them here, and they were all the unworn ones. I ain’t that desperate. I dumped Clint’s worn ones a couple hundred yards away from the Hab on Sol 9. It’s possible that I might have, in a moment of being that desperate this morning, tried to see if Nat’s would fit. The woman is tiny. Couldn’t even get the damn things up past my knees.
I gotta say, going commando in official NASA gear just feels wrong. Don’t ask me why.

But you don’t wanna hear about interplanetary laundry day.

Like all my days today started with me hauling my exhausted ass outta bed, but this time I blew a kiss at my girls first. My arms and shoulders got a reprieve after only a few hours of digging away when, possibly in answer to my prayers and increasing cursing Mars got grumpy at me for stealing its sand and blew in a dust storm.

Just to spite me.

I probably could have stayed out and continued digging – I was twenty feet from the Hab and had only emptied my tubs ten minutes earlier, but I have a thing about storms now, and my arms were falling off so I hauled ass back inside and, after washing some dirt, I set off the RO filters and began washing me and my clothes.

Because Mars likes fucking with me, just as I got clean – and has it ever felt this good to be clean? – the storm blew itself out and I had to suit up again –and if it was weird to be in NASA sweats without underwear, free balling under my suit was just fuckin’ wrong – to go and unbury the solar cells. I was already in a shitty mood, and utterly exhausted, and that just really pissed me off. I was mentally tired, physically exhausted, in pain, and I was god-damn unsupported.

All of which added up to me being done with the whole day by noon.

If Mars thinks it can throw a hissy fit every five minutes, it can think again. I don’t know what I’ll do in revenge but I’m a New Yorker. Cross a New Yorker at your peril, even if you are a damn planet named after the god of war. Mars was also the god of agricultural endeavours so as a botanist I think I can throw my weight around up here.

Once the cells were uncovered, I huffed my way inside, stomping as best as much as I could in a space suit in micro-gravity and flounced – if it’s good enough for Miss Piggy, it’s good enough for me – my way across the Hab and shucked my suit, fully prepared to just jack it all in for the day and curl up with some delicious protein bar and recycled water to watch some shitty TV off Barton’s drive, when I figured if I wanted to live, wasting 12 hours wasn’t something I could afford to do anymore. So I hauled my ass back off my bunk, grabbed a powdered juice packet to add to my water as a fun treat – what has become of my life - and got back to work.

One doubling later, I decided it was time to start prepping my crop.

I have twelve beautiful potatoes to work with.

And Sam to thank for it, which he’ll never let me forget if I ever see him again. Every birthday dinner, every Christmas card, every New Years drunken escapade he’ll find a way to tell me I owe him the biggest present or the biggest drink because without him, I wouldn’t be there to enjoy the party.

Those twelve potatoes – have carbs ever looked so good? - are fresh, having not been subject to the treatments (freezing, placed in vacuum, sublimation, removal of all taste and palatability) the rest of our foodstuff went through. After digging little holes for them all, I sliced ‘em into rough quarters with at least two eyes per piece. For those that weren’t geeks in school, the eyes are where the plant grows from. They look like little divots generally.

Those 48 pieces got tenderly introduced into my little seeding corner. Which may or may not be the
corner of soil that’s closest to the hall leading from my ‘bedroom’. You know, in case my babies need me in the night or something.

Huh, wonder if I should rig up some form of nanny cam? But do I really wanna be a helicopter parent? Especially when I’m planning on eating them? That’s gotta be as bad as naming an animal you’re gonna eat, and that never goes well. When my mom was a kid and still in Indiana, my grandad had a small holding with about ten sheep. Each year he’d name the lambs shit like Lambchop, MintSauce, and Rosemary, and each year my mom would cry when they were sent for slaughter.

You see where I get my sense of humour? I never stood a chance, this shit is genetic.

Maybe I should take an hour or two to watch shitty TV, because clearly I’m cracking up.

Do your thing my little potato pals. No pressure, but my life depends on you.

Back on Earth it takes about 90 days for mature potatoes to develop. But I don’t have that sort of time, and I don’t need them to be full size, I just need ‘em big enough to have developed eyes. I’m gonna dig ‘em up at around 40 days and chop ‘em up and replant again.

I say forty days because I’m doing all I can to give the little guys their best chance, setting the Hab to a balmy temperature, I’ve got the perfect lights for growing, no pests or weeds, it’s all good on Mars if you’re down on Barnes farm.

With all that, Farmer Bucky is done for the day.

I’m bored of Sam’s music so for my dining music I’m relying on Steve. Everyone was allowed to bring whatever digital entertainment that they wanted to ease the crazy of a year in space. It was the work of only a couple minutes of invading my commander’s privacy to find his. Classical music is good for developing babies, right, so maybe Big Band is good for developing plants.

Shut up. If King Charles can talk to his plants, I can play music to mine.

When I fired Steve’s drive up, I couldn’t help laughing myself sick; Sam definitely had a hand in helping Rogers make his selections ‘cos I recognise more than a few of the albums on Sam’s drive. That they were in a folder marked ‘Sam’s recommendations’ was a big clue. There is also a boatload of TV and movies, like Steve just printed off a ‘top media from the last century’ list and stuffed it all on a hard-drive or asked everyone he came in contact with for recommendations.

For all I know, that’s just what he did. He’s in command of a space ship to Mars, and to get that far takes dedication and chances are getting to that point didn’t leave a whole lot of free time for watching Star Wars.

I skim down the list and choose the first thing that I come across that I’ve not seen.

Golden Girls anyone?

**Log Entry: Sol 29**

The last few days have been spent hauling dirt around, popping Vicodin to try and quiet the screaming from my arm, and prepping the bunks and tables for the weight of the dirt and water. What I’m planning to use ‘em for isn’t exactly what they’re designed for.

How new and different for my time here.
What that all boils down to was even more scavenging from the MDV to saw off – and wasn’t that fuckin’ fun? That saw vibrates like a fucker - strips of metal to use as struts underneath the table and after some excavating in the bunks – aka ripping part of the side panel out so I can get underneath the actual bed of the bottom bunk – I was able to rig up some support under there too. Dirt itself is heavy enough, but add a buncha water on top and those bunks, space-age plastics or not, they’re gonna warp. But now, they’re nicely propped up with new supports and all good and ready for some farmland to get dumped on top.

I still don’t have enough water to weigh that dirt down, but I’m brimming with ideas.

And bad puns. Blame my ma for that.

Bad, bad, bad ideas. Well, idea, but more on that in a bit.

Today’s main task was the pop tents. Like the tables and bunks, becoming farm country isn’t their calling in life. I’m just hoping they have a natural aptitude.

The idea behind the pop tents is simple; in extremis you throw it out, clamber in and wait for a gallant crewmate to rescue you. Kinda like if you were mountain climbing and got overwhelmed by terrain or snow or whatever; you sit in relative comfort and await rescue.

Think I climbed in one, a crewmate would come get me?

The airlocks on the tents are pretty rudimentary – a couple doors and a set of valves because the tents aren’t autonomous, they gotta be hooked into the rover for shit like air. Just like the Hab and rover airlocks, any time I need to enter or exit the tents, it’s gonna cost me a lot of air, and I’ll need access at least once a day to check air quality, soil moisture, plant growth, and all that good shit. I can’t afford to lose much because the volume of these babies isn’t exactly high.

But Bucky, just hook it up to the Hab, you command, like y’all actually know what the fuck you’re talking about.

No shit Sherlock.

Do you really have such little faith in me that you think I wouldn’t have already tried that? Fuck me. I’m an engineer. If I’m bitching about this shit, it’s because I have tried and I’ve hit a wall.

I spent hours trying to figure out a way to do it. The Hab has three airlocks and I’m happy to assign two to the continued ‘Bucky doesn’t want to die’ effort, especially seein’ as how I’ve mostly been using the same airlock every time I go in and out. It’s the airlock closest to the rover charging stations, as well as the solar panels, and I am, extreme manual labour aside, a lazy asshole. The pop tents are designed to connect to airlocks – in case of injuries to those inside or damage to the suits you don’t wanna be exposing them to Mars atmo and risk turning your rescue mission into a body retrieval – so how hard can it be?

Really fucking hard.

Sure, they’re designed to connect with airlocks, just not the ones of the Hab. Think about it, if you were in need of help and close enough to the Hab that you could reach out to connect it to the tent, wouldn’t you just go into the Hab?

No, the tents assume you’re going to be on a distance EVA and gallant crewmates are riding a rover to you. Probably singing

Because just about all of Mars hates me, the rover airlocks and the Hab airlocks are not standardised.
Did we learn nothing from Apollo 13? That’s a punch to the jaw of whoever thought that one up if I get back to Earth, and if I don’t, I’ll be leaving behind a strongly worded letter with my mortal remains.

I’m not sure if duct tape is going to help me all that much here.

Just kidding, there is nothing duct tape can’t do except fly me home.

So fuck it, I’ve wasted enough time trying to figure this out. I’m just gonna take the hit and lose the air. If at a later date the solution presents itself, then by all means I’ll do my thing and hook ’em to the Hab but until then, screw it.

Making that bitter pill easier to swallow is that someone on Earth had the good sense to include air valves on the outside of the tents so that they can be hooked up to the rover to equalise tent pressure with the rover’s. For an unfathomable reason, the valves and tubes on the rover and the Hab are standardised despite the fact that the only time one is hooked into the other is to charge the rovers batteries.

Halle – fucking-lujah.

I can hook ’em up to the Hab and replace any air that’s lost with all my hokey-cokey bullshit.

You put your astronaut in, you take your astronaut out…

Also, I’m a motherfucking engineer – if I can’t crank these babies into the Hab’s main system, and importantly it’s Air Regulator, I can just build environmental sensors and place them in the tents.

I have the technology.

I think.

I hope.

I might not got Wifi, and I can’t talk to Earth, but I do have Bluetooth. Video mighta killed the radio star, but up here, radio is fucking king. How the fuck do you think we communicate up here? We all know how the lunar astronauts communicated with each other while bouncing around the moon by using Space string and some fancy-ass NASA engineered Space-Tin Cups at each end, but we’ve moved on since then…

No, morons, not fucking really. If a single person believed that, I beg of you not to operate heavy machinery.

That’s right, Bluetooth operates in wavelengths not blocked by the ionosphere, and actually does real fucking well up here seeing as how it doesn’t have to compete with all the shit flying through the air back home. Hell, back on Earth it’s even used to communicate with some of the satellites in orbit. Not so much here, seeing as how I don’t have a fucking dish. But the Hab can send out a signal itself. It’s pretty weak, but with the tents literally outside the airlocks, the sensors in the tents will be able to talk to the Hab systems and vice versa. Being able to determine that the air quality and humidity is good might mean I only need to enter the tents once every two days, reducing the loss of air.

It’s good to be an engineer.

An engineer with access to a whole lot of fuckin’ cool spare parts. Shouldn’t take more than a couple hours to construct a datalogger for CO2 levels, temperature, and relative humidity. I’m also
gonna have to install a light into each one; the tents are supposed to be a short-term solution for someone in a rover that’s in a distress. They ain’t outfitted with shit like a light.

Botany insider tip: plants need sunlight.

Or in my plants’ case, simulated sunlight.

The farm in the Hab will get all the faux-sunlight a growin’ plant could ask for, but the ones in the tent would be in near-darkness.

What do I need for the sunlight?

A power supply.

Just to hammer it home, the tents aren’t designed to be hooked into the Hab, and aren’t considered to need a power supply of their own. They’re basically a miniature space-craft, just like our suits. They’re there to supply pressure, radiation shielding, and air to astronauts from a rover that might be dead.

So I’ve gotta figure out a way to either hook them up to the electrical system of the Hab, or straight into the solar array.

The lights I can do immediately. A little judicious use of my trusty duct-tape – told you I’d get to use it – and I’d have a chandelier worthy of…well, it’ll look like shit but it’ll provide a place to hang the lamp.

The electrical issue can wait for another day. Do you sense a theme of procrastination with me? It’s a real problem, but I’ll worry about it later. It’s not like I’m in a position to do any more than just shove some dead Mars-dirt in there today and besides, there’s something fun I gotta do first.

The one thing I wanted to do in training was slap my hand down on the big red panic button that sits on the dash of the rovers. Nobody ever let me, Rogers always grabbing my wrist before I could do it. Instead, we got told what would happen after that button was pressed.

Lemme tell you, Phillips undersold how great it was.

Slamming that button was fucking cool.

NASA was not fucking around with these tents. It took under two seconds for it to get fired out and inflate. And I got to strut over to the other rover and do it all over again. A guy could get tingly all over from this sort of entertainment.

Closing off the rover’s airlocks left me with my little outdoor farms and after hooking up the equalising tubes to the Hab, I hauled my hard won dirt inside and spread it around.

It was as I left the tents that I kinda learned what my neighbours cat felt like when she got it one of those enclosed litter trays. I felt like I should be kicking backwards to cover up something.

Well, I am gonna be shovelling some of my shit into it, so I guess it kinda is a litter tray.

I need to get off this fucking rock. It’s doing bad things to my head.

Can’t really put it off any more.

Good ole wet stuff.
I’m still putting it off.

I miss the sweet simplicity of rain. You think I could make some sort of rain-stick? Carve a divining rod outta something?

Come on Mars, help a guy out.

Fuck it. I’m putting it off another few hours.

Procrastination-station, party of one.

I’ve got some *Golden Girls* to watch. Betty White was a fox, and you know it. Never listen to Wade Freaking Wilson who will tell you it’s all about Bea Arthur.

Heh, I’ve just answered an earlier question; Rogers totally just randomly asked people for suggestions on what to watch. *Golden Girls* was possibly the only non-NC-17 thing he suggested.

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**Log Entry: Sol 30**

Remember that bad idea I had about how to get water?

Well, I haven’t had any better ones so a bad one will have to do.

It’s a bad idea because it’s stupid and dangerous.

I’m talking Steve Rogers level of reckless and life-threatening.

Safety is over-rated anyway.

Right?! 

Besides, I’ve run out of time. I need water for the last doubling. If I double what I have onto all the new soil that I hauled in without watering it, all that sweet bacteria will die and so will I because I won’t have enough farmland. Not to mention all that digging and dragging would have been for nothing, and I refuse to die having hauled around what is likely several thousand pounds of dirt, even in Mars G, for no reason. I’m lazy that way. Just outta spite I have to make the water.

If I want water I’m going to have to make it. That’s simple enough. There’s no rain and I already explained the ice problem. Thankfully, it’s a simple enough recipe that even Barton couldn’t fuck up.

Hydrogen.

Oxygen.

Combine.

Burn.

Because this is my hell, it ain’t as easy as grabbing a couple hydrogen atoms and sticking ‘em onto an oxygen atom. It’s a little more complicated than that. The reaction is of $2\text{H}_2 + \text{O}_2 = 2\text{H}_2\text{O} +$ energy.
I know, I know. It involves chemistry. Nobody is more disappointed in me than me.

By energy I mean ‘boom’.

That’s the first hurdle of stupidity.

Boom is not a good word in a Hab on another planet.

But wait, it gets worse.

Let’s take those necessary ingredients one at a time.

There are two fifty litre tanks of liquid O2 that are stored one on either side of the Hab that act as my oxygen reserves. The Oxygenator is constantly pulling apart the CO2 that I exhale and reclaiming the oxygen so unless something happens to it, the liquid O2 is only here for the suit tanks – part of my old job was checking and refilling the various tanks attached to our suits, and I still gotta do it with mine - and the rovers

But because this is me and my luck up here is spotty at best, even if I could use every last drop, it’s not gonna gimme all the water that I need. Not even close. It’s the same problem I have with the water that I have now – I need what I have for me, and can’t just devote it all to something else, which is something of an overly ironic catch-22. Without using the water for my farm, I die. If I put all the water I have into my farm, I die. I can’t use my liquid O2 because I need it for my suits and in case of an issue with the Oxygenator, but if I don’t use it, I’m dead anyway.

So. Where does that leave the oxygen part of my needs?

All around me, actually. Just not in the way you think, or in the state I need it to be. Because that’s just how my luck goes.

Earth’s atmosphere is about 78% nitrogen, 20% oxygen and then the rest carbon dioxide, argon, and a bunch of other gases nobody really cares about. Up here, it’s 98% carbon dioxide and for once, that’s working for me, because it means I’m just fuckin’ surrounded by the stuff. Oodles of it just waiting for me to knock some sense into it and convert it into oxygen so it’s actually fucking useful for me.

But how, Professor Barnes?

Well my little padawan – Rogers might not have seen Star Wars but I have. Including the ill-conceived prequels and both trilogies of sequels and yes, I’m aware the whole orange and white thing I got going on in my suit makes me look like BB8, only less round, but I’m assured I’m cuter. By Barton, by assured nonetheless – I shall tell you. I happen to be in possession of a device that is solely devoted to ripping apart CO2 and leaving me with sweet, sweet O.

Boom! The Oxygenator has never been so beautiful. If you think I mighta kissed its gorgeous little vent, you’re damn right. Except when I did it it didn’t sound anywhere near as dirty as it just did when I said that.

Let’s move on.

Quickly.

But how to collect all that lovely air? It’s not like I can run around out there with jars like some crazed butterfly collector, and besides the atmosphere is thin – around a 90th of what it is on Earth – and thus hard to collect. Even if I could, the airlocks are designed to stop that exact thing from
Happening. Any air that comes into the airlock with you when you step into the airlock — whether you’re going into or out of the Hab is vented out of the airlock before you can move on. God-damnit NASA, did you have to be so efficient at making sure the atmosphere that can kill me stays outside where it belongs?

Enter, the MAV landing platform. More specifically, the fuel plant.

What? Like the MDV gets to have all the ‘I came to Mars and all I got was Barnes scavenging from me?’ fun? Besides, I said it might come in handy. Sure, I mighta meant the struts, but this works too.

Thank fuck for NASA not taking away shit they think isn’t necessary anymore. You interplanetary litterers might have saved my bacon. Of course, you also kinda left me here and thought all backup Comms systems should run through the MAV so we’re not quite square yet.

You send Ares 4 and I’ll take the matter under advisement.

The fuel plant from the MAV has, as its first step in some tricksy chemical reactions to make its fuel, the collection of CO2, which is then stored in an immense high-pressure tank. Hook that up to the Hab’s power supply and I’ve got a free source of half a litre of CO2 per hour until the sun stops shining. Every five days, it’ll net me 125 litres of CO2, which will make, once it has been through the Oxygenator, 125 litres of O2.

So every five days, I’d have the capacity to make 250 litres of water, which is handy given that’s about what I really need asap.

So oxygen is my bitch.

I am, however, currently hydrogen’s bitch.

So far, my idea sounds really safe doesn’t it? Y’all kinda sitting there wondering what the fuck I was so enigmatic about. I bet you’re all sitting there wondering what a fuss I’m making over hooking a fucking tank up to the Hab and making all the O2 a growing lad could want. Well, hydrogen is where it gets a little – a lot – more dicey.

We haven’t even even gotten to the boom, yet.

I have a source of hydrogen that I could use. The Hab has hydrogen batteries that keep it powered at night when it can’t run off the solar cells. Or when some idiot has robbed the array and not put the panels back. So far, so safe. During the day, whatever solar energy that isn’t used, is stored in the massive batteries – these aren’t AA batteries I’m talking about, they’re about as tall as me and a few feet wide – and that excess then keeps the heat running and the Oxygenator ticking and Water Reclaimer…you get the idea. Basically I need them because without the batteries I’d have no heat once the sun went down.

Without heat, my plants die.

Without heat my bacteria dies.

Without heat I die.

So that is a no.

Besides, literally the only thing in my favour up here is that I have endless amounts of power. Let’s not fuck with that.
And this is where the danger comes in.

Welcome my good buddy, the MDV.

I say good buddy, but we all know I really mean ‘thing that did its best to shake rattle and roll my fillings out of my mouth and seriously displeased every single one of my internal organs when we were rocketing towards the surface. I cannot describe what it was like but let me tell you this: if you think turbulence in a plane is bad when you’re going 720kph, you ought to try it at 28,000kph. I hereby rename the MDV the Vomit Comet.

Wilson, badass pilot that he is, touched down within seven metres of the landing zone. NASA was ecstatic. Wilson had the audacity to be pissed he couldn’t give it another go ‘cos he was sure he coulda gotten right on the money.

If you hadn’t guessed, when Wilson was still part of Pararescue, he was the sort of lunatic that jumped out of planes under fire to rescue people from a war zone. All while being shot at. And he enjoyed it. He’s not right in the head. Used to be a boxer so I think he’s had one too many thumps to what he calls a brain.

I’ve seen scans of his head, I’m not convinced that what’s between his ears isn’t cotton candy. I repeat, he purposefully jumped out of planes with a winged jetpack on. Does that sound like something a sane person does?

Unsurprisingly, none of the rest of us were ever going to volunteer to let him try again, not even Barton, which should tell that I’m not just over exaggerating how bad the trip was. Unless Sam manages to get the piloting gig on Ares 4 or 5, he’s just going to have to be proud of making it within 7 metres of his parking space.

Actually, he’ll stand a pretty damn good shot at getting 4 or 5, y’know. NASA love him, he’s fuckin’ good, smart as fuck occasionally, and can fly like nobody else. Seriously. He might as well have wings of his own.

The important thing here, that I’m getting to in my usual roundabout way - because the journey is more important than the destination and all that jazz - is Wilson’s landing. Because he did such an awesome job, he didn’t waste fuel altering our course or adjusting.

Wilson, my man, that smooch you got coming? Hope your good with a little tongue action in gratitude.

All that lovely fuel just a short walk away…litres and litres of Hydrazine. Chemistry is Thor’s thing but even I know that each molecule of Hydrazine contains four atoms of hydrogen. Every litre in that tank is gonna net me two litres worth of water. While I was ripping apart portions of the outer casing to the poor old gal, and mulling my way through my stupid plan and whether or not I thought I might survive it, I might have checked out how much fuel I’d have at my disposal. Y’know, just in case. I knew there had to be a decent amount, but even I was surprised by how much I have to work with.

A sweet 292 litres of fuel just waiting for me to do something stupid.

Hail Hydrazine!

Now for the reason why this is the Reckless Rogers Method.

We’ve all watched rockets take off. Big boom underneath ‘em, lots of steam and smoke and it fires up into the sky like…well like a rocket, not to put too fine a point on it. All that thrust to get the rockets off the ground is created by liberating the hydrogen from the Hydrazine. Do it in an oxygen
rich atmosphere, and the heat and the hydrogen will cause one hell of an explosion. It’s like sitting on a bomb.

Mostly because you sort of are.

That’s essentially how the German’s occasionally blew themselves up with the stuff in the Second World War while developing their aircraft. This is not stuff to fuck around with.

Which is exactly what I’m going to be doing.

Oh yeah!

To make life a little more knife edge, that ain’t the boom I was referring to. Yeah, there’s a whole other boom I gotta worry about on top of the exploding horribly. It’s a whole other kind of exploding horribly. Hydrogen is like Barton, it’s the simplest element in the world. It has one single electron in its orbit. Oxygen, being more complex, has six in its outermost orbit. In order to get these two lovebirds together, there’s an energy barrier to overcome.

Hydrogen is also a highly flammable gas and oxygen supports combustion, so what happens when they come together?

Take a guess.

Boom.

FYI, they think that’s what happened with the Hindenberg. Lots of O2 outside, lots of hydrogen inside, one iddy biddy spark…

Did make water though.

Huh, wonder if they’ll see me blow my stupid ass up from Earth. There are a few satellites and probes drifting their way across my sky…you think if I win a Darwin Award for stupidest death on Mars they’ll notice?

But what choice do I have?

No, really, I’m asking.

Any other options, lemme know.

If I don’t make the water, I’ll die. So really if I blow myself up, at least I tried. And hey, the next probe would find water on Mars! My contribution to science. The new Barnes Crater in Acidalia Planitia and a neat little lake.

Now for the actual liberating.

It’s actually ludicrously simple given how much it’s likely to kill me; you pass the hydrazine over a catalyst – which is thankfully in the MDV engine and god I hope it survived the pinball run it had a few weeks back, I haven’t actually checked that yet –and boom – I gotta stop using that word, it’ll end up being a self-fulfilling prophecy – and nitrogen and hydrogen are all yours. Or, well, mine. Thor can fill you all in on the specifics about the reaction –seriously he’ll be more than happy to do so. I actually miss his hour long treaties on his experiments. Never thought I’d say that – but at the end five molecules of Hydrazine become five molecules of nitrogen and ten molecules of H2.

But chemistry, unlike my beautiful botany and definitely unlike engineering, is a bitch. Specifically a
careless, sloppy one. Because it can’t just carry out that reaction, can it? Oh no. That would be sensible.

You remember me bitching over the stench of Bucket O’ Bucky’s Shit?

Well, it’s soon to be replaced with nose hair curling ammonia.

Between Hydrazine becoming nitrogen and hydrogen is ammonia. Not all of which will react with the Hydrazine so the Hab is gonna be charming. It’s going to be like sticking my head over a bucket of bleach. Which isn’t going to be good for any portion of me.

Wonder if I’d look hot as a blond?

You think Yankee Candle can send me something to counteract the smell?

So there you have it.

I might as well call this ‘Water, by Steve Rogers.’

But he’s still alive, and he does stupid shit all the time so this is gonna go fine.

Optimism ‘R Us, remember?

Though, I guess you could call it stupidity too. Or blind faith.

Optimism makes me sound smarter than those two things.

But I do got one thing on my side.

History.

That’s right. History is on my side. And not my history either, because that’s never on my side. No, the history of scientific endeavour. Specifically the history of scientific space endeavour. It’s shit like trying to make water from rocket fuel that got mankind into space in the first place.

Y’ all probably don’t know this, but the JPL only exists because of the ‘rocket boys’ and their exploding ways. That’s right, stupid shit like this gets results. You can look it up. ‘Bout a hundred years ago Jack Parsons, Frank Malina, Rudolph Schott, Apollo Milton, Olin Smith and Ed Foreman – I’m a fucking nerd of course I know their names - all caused an explosion at their dorm at Caltech during a rocket test. Yeah, they were carrying out fueled rocket tests in their fucking dorm room. They got kicked off campus and caused a whole bunch of other explosions out in the mountains but none of them ever got hurt. They were fucking about with fuelled rocket tests in the 1930’s, even set a rocket’s oxygen line on fire, and none of them got hurt. You know how fucking lucky that is?

Caltech let them back on campus after a while but booted ‘em again soon after. Probably set something else on fire. So they set up their own lab. Within a few years it’d gotten official funding and the JPL was born. Those guys built something that has been involved in over 200 space missions, some of which have been outside our own Solar System.

They blew up a dorm room and survived to send shit into space.

Of course I likely wouldn’t be here now if it wasn’t for them but I’m looking at positives here. They survived. I can survive. Shit like this, insane shit like this, this is the mother of invention. This is how shit gets done.

Know why else this is all pointing to my survival? Jack Parsons was a self-taught chemist. Which
really is a phrase that should strike fear in the hearts of mankind, but there it is.

Guess who else is a self-taught chemist?

Me.

Everything turned out just fine for Parsons and the others. They built one of the most respected propulsions labs in the world, they helped put mankind on the Moon and on Mars. All I want is to just live long enough to go home. That’s not asking for too much.

This’ll be fine.

Right?
Boom Boom Shake The Room

Chapter Summary

Barnes has a plan to make the water he desperately needs. It's dangerous and it's stupid, but he's sure it'll be worth it and he'll die if he doesn't try.

He's sure it'll work, he's just got to not die in the process.

Chapter Notes

Apologies for this being five days late - I just could not write this week, words just refused to happen. I also decided at the last second to correct some of the science and this chapter kicked my butt as a result. It's still not totally accurate but it's closer.

I hope to get back to regular updates.

Log Entry: Sol 31

Everything is kinda fine.

Fine-ish.

Fine-adjacent.

Can’t believe I’m longing for the days of the Barton Method. At least that’s survivable if not remotely advisable.

Then again, Clint’s idea of a good time is bouncing around like a lunatic, with a bow and arrow and doing increasingly dangerous trick shots. Between his legs, behind his back, upside down...you name it, he’s tried it. Stark took him golfing once, and came back in a shitty mood – and with a few bent golf clubs - when Clint kicked his ass. Stark wouldn’t talk about it, but Clint wouldn’t shut up. Took about thirty seconds for the entire complex to know about how he’d played eighteen, shot eighteen. What Stark didn’t know was how Clint ad even tried to lose once he saw Stark was taking losing about as well as he ever does but he just couldn’t seem to miss.

There’s a reason we all call him Hawkeye.

It’s also a reason he’s always got a band-aid slapped somewhere on his person. He never misses his target, he just occasionally forgets to land right on the trampoline or sprung floor or whatever he and Natasha are messing around with, because when it boils down to it, she can be equally crazy.

Why do I miss the simpler times of the Barton Method?

Because even having decided to try the most ridiculously dangerous thing I think I’ve ever done - and that includes telling Becca’s prom date about how I used to change her diapers and then went on to describe the sheer toxicity of her sh...you know, I’m getting off track-, and decided to really
commit to the insanity, I keep coming up against an increasing number of hurdles that are becoming roughly the size of the Berlin Wall, with a disturbing number of landmines dotted around it.

A Berlin Wall that, I’m not gonna lie, is starting to have me wondering if this ain’t the universe’s way of telling me that I’m being a reckless jerk and that while it gave me a second chance after the Comms-kebab, it will not be giving me another get out of jail free card.

Do not pass go, do not collect two hundred dollars. Do not survive long enough to get off this shitty planet.

But what fuckin’ choice do I have? Unlike a certain Commander aboard a certain space craft, I actually have a self-preservation instinct. Yeah, yeah, I know that sounds oxymoronic, that I’m desperate to avoid death and to do so I have to run straight into Death’s waiting arms, but seriously, what choice do I have?

I’m asking.

Seriously.

Do I have another option ‘cos I’m running out of time to start this one? I have no other source of food than the potatoes, I have to grow them. Without them I die, sooner rather than later. So if I’m going to die anyway, shouldn’t I give it a fucking shot? I’ve run every simulation, every calculation…

So, I’m gonna scale the wall, and tap dance my way through the minefield.

The amount of Hydrazine I’ve got can make me about 600 litres of water, more than enough for what I want, and have plenty left over for any other project I might need water for, like a bath or some shit, I don’t know.

Actually I do know. It’s for a bath. I’m starting to offend myself, though what good it’ll do given I live in a shit-farm I dunno.

To make that water, I need 300 litres of O2 which is easy as fuck to get a hold of thanks to my trusty fuel plant from the MAV. The fuel plant has 10L tanks which it takes 20 hours to fill. Anyone else flashing back to Mr Pierce’s maths class with the questions like ‘it takes five workers two hours to paint three fences. How many fences could ten workers…’

Just me?

The only answer on those things I could ever come up with was ‘I don’t know and I don’t care’.

Moving on then.

Every time a tank fills, I remove it from the plant, strut it over to the Hab, better known as rolling the fucker along the floor, and with some grunting and swearing, get it hooked into one of the external valves in the canvas.

For once I’m actually going to be using something for the purpose for which it was intended. I might faint in shock.

Once that’s done, I get to sit and twiddle my thumbs while I wait for the ridiculously sensitive sensors on the Oxygenator to notice that the CO2 level is rising in the Hab, and then it’ll react to filter that all back out because us humans are shrinking little violets and can’t handle too much carbon dioxide, and it’ll get torn apart to provide me with excess oxygen.
The gas then gets compressed into the tanks on the inside of the Hab and voila. Actually, the amount I’m going to be making is well in excess of the tanks capacity, but that’s okay because I’m going to fill every tank I’ve got from the suits to the rovers. If I fill all those before I’ve gotten enough O2, then I’ll just have to stop making some for a while and burn through what I already have.

Not that I think it’s going to happen – it’s going to take me almost a fuckin’ month just to make the O2 I need, and I don’t have that sort of time! That’s three-quarters of the time I’m going to be growing my first crop with and I can’t be wasting that.

I also have to store more than the O2. I gotta store the hydrogen too. All told I’m gonna need in excess of 900L of storage. Space, out here in Space is ironically enough sorta at a premium.

At this rate, there isn’t going to be enough room for me to be in here with all the hydrogen and shit! I’m gonna have to go live in a rover, and the thought of spending more than a day or so in one of those is worse than thinking about what I’m going to do.

Back on Earth, with the luxury of a welding torch I could knocked out an airtight tank in no time, but up here, I ain’t got the stuff I need. I thought about splitting the tank space evenly between O2 and hydrogen, and even about using a rover but dismissed that idea pretty damn quick; the rovers are designed for forces equivalent to one atmosphere and I’d need to compress the shit out of and I dunno about you, but I’m not watching my sole form of transportation going up in smoke.

Maybe you guys are more into Indy 500 or something, but I don’t wanna see what amounts to my car explode.

Either of them.

I even had a manic thought about checking the integrity of the capsule in the MDV to see if I could store it there before I came to my senses roughly 0.004 seconds later.

Some of you eggheads have figured it out already, haven’t you?

Keep it to yourselves, it took me an embarrassing amount of time to come to the same conclusion,

I realised, several hours of moderate panic later, that I was being phenomenally stupid; what is the point of storing the two ingredients separately? That takes up twice the space, when I could just make the water as I collect O2 and hydrogen and then whatever the soil doesn’t absorb like a sponge, I can store. I spent this morning scrounging up every piece of storage I could find because if my plan works, I’m going to be making in excess of double the water I need and the last thing I need is the soil becoming overly saturated. We brought a freaking ton, and I mean that almost literally, of storage bins and containers and sample boxes and all manner of other shit that I can dump water into and I’ve not got them stacked like matryoshka dolls up one wall of the Hab.

It’s not like I’m going to be continuing the experiments that the rest of the crew abandoned and so their stuff is up for grabs.

Possession is nine-tenths of the law, and I am the law up here.

Sounds all well and good, right? Barely suicidal at all.

Because I haven’t gotten to that part yet.

This part of the plan provides a multitude of ways for me to Wile E. Coyote myself out of existence.

Can I get a drumroll please?
In the red corner, battling for the right to kill me is the release of the Hydrazine over the iridium-alumina catalyst which has laughed in the face of Mars’ storms and was in perfect condition – God bless high-strength carbon nanofibre - when I went to check it yesterday, and it even survived my rather brute force approach to getting it from its casing that had not survived the storm well. Once over the catalyst, the Hydrazine – $N_2H_4$ - will release $N_2$ and $2H_2$. Which is gonna make the Hab real fucking uncomfortable for a while. Fuck the smell, it’s gonna get hot. The decomposition of the hydrazine is an extremely exothermic reaction.

‘Heatwave! This is my island in the sun…’

Just me?

Stupid Barton and his periodically awesome movies.

My shitty math has it that the reaction is going to be creating around 5GJ over the 25-ish sols it’s going to take for me to get enough CO2 for the 250L of water, and around 54 for all 600L. That means I’ve got to find a way to dissipate 200MJ/day. That’s enough heat to raise the temperature of New Brooklyn by a degree every minute for 25 sols.

That heat and the pressure release provides the energy for shit like propulsion. It’s how some of the satellites that are floating around above my head are course-correcting. In a monopropellant rocket – like the MAV – the tank the hydrazine is in gets pressurized by helium, forcing the fuel down a pipe, through a poppet valve – which ain’t as cute as it sounds - towards the decomposition chamber the catalyst is waiting in, like the Big Bad Wolf.

Oh Granny, what big hydrogen you’ve got.

All the better to burn you with.

If it’s any consolation, I know how creepy that sounded, but I don’t care: it’s just sinking in right now how stupid this idea is.

The soil I’ve brought in would be an effective heat sink if it was still the temperature of Mars, but it’s been in the Hab too long. Even if I wanted to – I don’t – to bring in enough cold Mars soil to make a difference would be another five-ish tonnes.

Fuck.

But I can’t throw open a window and turning off the heater is only going to help so much.

Lucky for me I’ve got two things going for me. Originally NASA had entertained the idea of raising the Habs off the surface to protect it from the cold. That was nixed as being too complicated, so right under foot – and a lot of insulation – is cold, cold Mars rock. Which, if you paid any attention at school, is a natural heat sink. Try sitting on the cold ground for more than a few minutes and see how cold your ass gets. I can use that.

There is also a lot of electrical shit in here. A lot. Ever run your laptop actually on your lap? They get hot. What do overheated equipment do? That’s right, they die. So NASA made this handy-dandy cooling system. It’s not designed to run all the time – oops – but there’s a series of tubes running underneath the floor and around the ribs of the roof, through which a coolant can be run from an external tank. Running it 24.6/7 for anywhere from 3 to 6 weeks is going to be a strain.

Fucking lucky I’m an engineer, huh? I shut down the heating system before liberating the catalyst
and it didn’t take long for the temperature to drop to ball clenchingly uncomfortable. I’m only gonna turn on the cooling system when it gets warmer, try and run it in shifts so it doesn’t die on me.

Aaaaaand, not to be outdone by all that shit, in the blue corner, hoping to beat the Hydrazine to the punch to send me to my maker, is the burning of the hydrogen. Sounds harmless, right? Hydrogen can’t be as bad as rocket fuel, surely.

Shows what you fucking know. Hydrogen has an energy density of close to 4 times that of jet fuel - 141.86MJ/kg vs. 42.8MJ/kg if you must know - so it’s really fuckin’ volatile. Do something stupid like oh I don’t know, give it a spark, and a little oxygen, and well…

You get the idea
Both combatants in this title fight can end in the same outcome.
Fiery, fiery death.

Hydrazine, even before I fuck around with it is deadly. Its rocket fuel and that shit ain’t famous for being a cool customer.

Assuming I survive that, I have to set a fire.

In the Hab.

On purpose.

What is the single most stupid thing anyone could ever do in a confined space with huge quantities of extremely flammable gases just queued up around the perimeter?

That’s right, light a freaking fire.

You know how I figured that a bunch of biologists are creaming their pants at the thought of studying my body to determine the effects of super-long term space travel? Well, if you mention the word ‘fire’ to anyone that worked on the Hab, or Valkyrie, or well, to be honest, anyone ever connected to any space agency in any country, and I’d bet you dollars to doughnuts, they’d shit their pants at the thought.

It’s such a shitty idea that people don’t even think it’d occur to an astronaut to do something like light up. Go ask one of them what the result of a fire in the Hab would be, and they’d tell you ‘death by utter stupidity’.

Okay, they’d probably tell you ‘death by fire’ but allow a fella his artistic licence. It’s my autobiography after all. Besides, my version is more accurate. My sister once got me this book of stories about Darwin Awards, stories of how people took themselves outta this plane of existence in the stupidest fashion possible. Guess who is likely getting his own damn chapter?

Maybe I’d get my own book.

Shockingly there are no sprinklers in New Brooklyn. Come to think of it the first few places I lived In Brooklyn didn’t have one either. Definitely not up to code.

Should I survive though, I’ll have a beautiful supply of water and no need for 900L storage; the water will mix into the atmosphere as humidity until the Water Reclaimer yanks it out and stores it and when its tank gets full, my pilfered boxes are ready and waiting.
Because of that increase in moisture I’ve spent hours covering everything electronic with tarps and duct tape to protect it from damage. Ah, what would I do without duct tape? Saving lives throughout the Solar System. As well as improving the quality of life for me, Sam and Natasha when we blew off steam during training by duct taping Barton to the fridge door. He hung there for about twelve hours before Thor took mercy and freed him.

Jane never noticed he was on the fridge door any of the seven times she went to get creamer for her coffee. He was *talking* to her each time, but she was in another world. She’d probably be surprised to learn she’d even gone into the kitchen, let alone seen a colleague in his boxers taped to a door.

Say what you will about the guy but he’s got great bladder control. Not so much the noises he made when he was finally reunited with a toilet.

Rogers was so disappointed in us. He’s like an Irish Catholic mother, I swear. He doesn’t always get angry, he just gets this disappointed look. Anyone who has spent any time around nuns – spoiler alert: I have – is immediately beset by crippling shame. That’s the effect Rogers has on those around him that have disappointed him.

But when he does get angry…is it inappropriate to say that it does things for me?

Then the fucker smirks and you can see right through that butter-wouldn’t-melt exterior. He’s spent years perfectly cultivating this aw-shucks-ma’am exterior, I swear, and now he can get away with such shit because nobody would ever look at this choir boy and accuse him of anything.

Kinda love you for that, pal. Especially when we all went out to celebrate surviving training. What was it we called ourselves as we hit the clubs?

Oh yeah.

The Howling Commandoes.

We fucked shit *up* that night and all turned up for duty with hangovers, including the engineers and trainers that we’d dragged out with us. Except Nat – that Russian blood of hers makes her impervious to vodka. Or at least the piss-poor stuff the US serves. Or maybe she felt as shit as the rest of us – she got into a drinking contest with a Marine (he bet her that if he could outdrink her, she had to go on a date with him) who had to be three times her size and she felled him like a tree after enough alcohol to kill lesser beings. Last we saw of that guy, three other jarheads were hauling him off. Probably to the ER - but was hiding it better. Colonel Philips went ballistic and Rogers just took it and protected us from his wrath with some bullshit about team-building and comradeship and a buncha other buzzword shit.

Going out had been his idea. I’d bet my life savings if you asked anyone involved with our training who wanted us to go out that most would say it was me, and let’s face it, under normal circumstances they’d be right *and* I’d be fucking proud of it. Maybe some would choose Clint, who wouldn’t even understand what the hell was going on because he wasn’t so much hungover as still drunk and was waving one of his hands around to watch the glitter on his skin sparkle. Don’t ask about the glitter. Don’t fuckin’ ask.

I will never recover from the mental images that asking about the damn glitter got me.

My point is, that not a single person would have said Steve. Not a single person on this planet woulda said the ringleader of the depravity was Steven Grant Rogers.

The man is a *genius*. 
It was a thing of beauty how most of the senior training staff bought our little night of revelry as ‘forging trust and companionship through shared experiences’, and had my head not felt three seconds from exploding, I’d have shown my appreciation in a more physical way.

But I’m getting off track.

Where was I?

Oh yeah.

The good part of this plan is that while I was annoyed this morning at having to wait almost a day before being able to use the CO2 from the fuel plant, I was being stupid.

Go figure.

There is plenty of oxygen in the Hab and more in the reserve tanks, I just have to be careful and not make so much water that I run out of oxygen.

Wouldn’t that be a fun addition to my wiki page? ‘James B. Barnes drowned on Mars. A planet famous for having no water.’ No thanks, I’m not going down in history as a bad punchline told by idiots in wine bars.

Oh god I miss alcohol. Beer. Whiskey. Wonder if I can figure out a way to make beer with peas shoots instead of grains…god that might kill me. Bathtub rye is one thing but bathtub peasmush…I have standards. Not many but apparently that is one of ‘em.

I’ve spent most of the day thinking on this stuff but I did at least succeed in getting the fuel plant hooked up to the Hab and chugging along. In the morning, water.

For the moment, I’m taking my mind off my impending death with more Golden Girls.

Hey! Surprise George Clooney!


Log Entry: Sol 33

So, this is possibly going to be my last entry.

Which is pretty good given I died 27 days ago.

I feel like I'm running a meth lab or something. One wrong move and kaboom.

Do the rovers count as an RV?

Hit another landmine about an hour after my last update; after getting better, slow as a turtle through treacle, the wound in my arm suffered a bit of a setback, which is why I’ve had to sit on my ass for about two sols when I really need to be getting fucking on with it.

Much as I wanna blame Mars, it was my own fucking fault.

New Brooklyn is, if everything goes the way I want and I don’t actually end up a burned crisp at the bottom of a smoking crater, about to become a jungle for at least several days and more like a week or so as I’m continually making water and the Water Reclaimer is playing catch up, trying to pull it
out of the air. Living in practically 100% humidity ain’t gonna be pleasant for me, but for the billions of dollars of computer equipment in here, the grand majority of which I need to function in order for me to live, it could actually be fatal.

Have tarps, will travel.

I’d already covered the big shit, sealing it up as best I could. Made me feel like it was at my grandma’s when she got that plastic coating on all her furniture. Hurt like fuck to sit on in the summer, way worse than leather and I ain’t looking forward to the experience. But moisture in the air ain’t gonna keep itself to the main compartment and I don’t need shit sparking up. With no doors to close, I made my own. I made my way around the main compartment, positioning a tarp against a rib, holding it in place with one hand while the other used the skin stapler to fasten it up.

Repeat.

Repeat.

Repeat.

Repeat.

You get the fuckin’ idea.

I feel like I live in a slaughterhouse with all this plastic shit hanging from everywhere.

I’d managed to hang sheets of tarp up around most of the Hab, a couple away from closing the gap and moving on to sealing the tarps closed with duct tape apart from one opening, when I mighta been up on my toes on a stool to hang one of the last sheets, lost my balance and landed, because Lady Luck enjoys fucking with me, on my left arm. I popped a vicodin – alright, alright, it was two – as soon as I could crawl to the med bay and carried on as best I could but in order to staple tarps in place you really need one arm to hold it and the other to wield the stapler, but I knew if I stopped I’d only be worse the next day and I can’t waste time.

I was right, by the way. I spent yesterday in agony, sulking and watching Star Trek off Steve’s drive.

And sleeping. A lot of sleeping. Two vicodin might have been pushing it. Yesterday afternoon, so I could at least get some oxygen while I was sitting on my ass, I managed to drag the first CO2 tank over to release it into the Hab because I really can’t fucking afford downtime.

Every step I invented a new curse word. Some of ‘em were pretty inventive.

I’m flipping the bird to optimism for today. I ain’t even holding out for this to work well, I’m just settling for hoping it don’t turn out to be fucking shit. Besides, in case the log just ends, I think it’s best that I at least mention that I’m about to do something suicidally stupid, in case nobody has been paying attention up ‘til now.

Even with the optimism schtick, I’ve known for 27 days that chances are I’m dying up here. I always thought that it was going to be from starvation in a year or so. Not five minutes from now when I finish this log.

Okay, fine, more like twenty minutes because I type via hunt and peck and not touch typing. Lord knows Natasha and Sam tried to teach me but…

Shut up! I’ll have you know every single person on Mars types with the hunt and peck method!
In a perfect – and safe – world, I’d be running a multi-stage experiment with closed chambers. Each individual chamber would be painstakingly regulated and controlled for temperature, pressure, and density. They’d also have their own valves for the release of nitrogen and ammonia. The catalyst would be in a separate chamber with the hydrazine being fed over it.

This ain’t a perfect world.

Instead, I get to do this in primitive conditions in a closed environment, with New Brooklyn not having many ways to diffuse the heat other than to go slow as treacle.

I spent this morning setting up the catalyst and my own super-low budget version of a fume cupboard – which was ironically enough made out of shit that probably cost hundreds of thousands, but looks like something out of a pre-school Christmas play - and as anyone that’s done any DIY can tell you, it took much longer than I’d expected. That was, in part, because I’m already losing condition, most notably in my arm. It might be psychosomatic, that I’m just seeing it because I know it’s weaker, but I’d swear that there’s a noticeable difference in muscle tone between my left and right arms. Vain as it sounds, I started taking photographs of my left arm, every day at the same time so I can view any improvement.

Or decline.

I know that logically that’s been happening since the moment we got up to the Valkyrie. Even with its simulated gravity, it’s no Earth and even with Barton hounding us to exercise 2.5 hours a day – on the most ridiculous hamster-wheel-esque treadmill you’ve ever seen - we knew we were going to experience muscle atrophy and loss of bone density.

It’s the cost of space travel. It’s part of why Rogers had us running PT drills like dogs right up until the day we left to ensure we were as strong as possible before take-off.

If he’d had his way we’d have all gone for a run the morning we left too. Never mind that launch was scheduled for 02:50. It comes to something when it’s Phillips that tells you to leave your team to sleep. Actually we were all too busy trying to check with the engineers we’d bribed to help us smuggle shit into our kits for a simple birthday party for Steve given it fell when we were still in orbit before we headed out. I might have, after Wade gave us the all clear, gotten up and walked around for a bit, breathed some fresh air, stared at the horizon and wished for a morbid few minutes that I’d paid more attention to all the sunrises I’d seen before because what if I never got to see another one?

Sunrise on Mars just ain’t the same. Light doesn’t refract the same, no clouds, no trees to catch the light…it just ain’t the same.

But back to my fitness, or disturbing loss of it. New Brooklyn doesn’t have simulated gravity like Valkyrie and Mars’ own is less than half of Earth’s so my muscles and joints and…it doesn’t matter the science of it. What matters is I’m losing condition and I need to grow some fucking food so my body stops sacrificing my muscle to make up for it; if I’m losing condition so rapidly that I can see it and feel it after only a month, what will I be like in 48 months? If I’ve gotta get my ass to Schiaparelli to catch a lift with Ares 4, I gotta still be fit enough to somehow get my ass across half a damn planet.

How do I do that?

Potatoes for all!

I swear, if I get off this rock, I’m probably never gonna wanna see a potato again but right now I’d give my left nut for a mountain of ‘em. Boil ‘em, mash ‘em, put ‘em in a stew!
Why am I not surprised that Rogers hadn’t seen the epic Lord of the Rings movies either? I survive this and I’m gonna have to give him a crash course in pop culture. On the plus side, it does mean that I have ‘em because they’re on his entertainment drive. Extended Edition too, so I got about eleven hours of sweet, sweet distraction.

Why is that important?

Gives me somethin’ to watch while I do endless biceps curls with small containers of water as weights. Guess I’m going to have to have to risk going into the medical side of Barton’s laptop again and find some rehabilitation stuff. Hope he’s got some, because other than ‘lift this thing, put it down again, now lift it up again’, I don’t really know what to do and strangely enough Mars doesn’t have wi-fi.

I miss Google.

I really fucking miss Google.

During my morning of DIY, I pried the access panels off the MDV and relieved it of its fuel tanks, setting them in the shade of the rovers which I’d moved further away from the Hab and closer to the MDV. While they were chilling like a villain, I got at the reaction chamber.

Hindered by my suit and large gloves I had as much chance of getting that fuckin’ thing out of its casings, and away from its heat source, intact as I did talking Sara Quinn outta her panties on prom night. But if at first you don’t succeed, apply more brute force and try again. Then just get a fucking rock. Apply rock to chamber. Wash, rinse, repeat. Repeat again. Repeat while swearing up a storm.

The chamber just cracked almost in half when it finally gave in to my gentle persuasion, which was a better outcome than when Sara punched me right in the balls. She also kissed me after which just confused the shit outta me.

Now you might think ‘Bucky, you dick, you’ve broken the chamber and you’re fucked.’

Not to be smug or nothing, but you’d be wrong. The cracked chamber is actually perfect for me: I don’t want a proper fuel reaction. That’s the last thing I want. Remember, fuel chambers are basically fiery, fiery death. Even for the professionals, and I am no professional.

I didn’t just watch Lord of the Rings while pumping not-iron. In the decomposition chamber and out on the surface, the catalyst was still essentially in vacuum. It likes vacuum. Vaccum is the catalyst’s best friend.

It doesn’t like oxygen.

What am I introducing it to by bringing it into the Hab?

You guessed it!

Unlike the Ascent Vehicle that we get to and from Valkyrie in back on Earth, under normal operating conditions the catalysts designed for the MAVs are only exposed to the reducing environment of the hydrazine and the shit that it’s broken down into. Oxidation resistance isn’t required because it’s never meant to happen. Oxidation damage isn’t reversible and if I really fuck up, the catalyst can become completely deactivated.

Which would mean no water.
But because I have occasional moments of brilliance while working out – and we can finally answer that whole ‘if a tree falls in the wood and nobody hears it does it make a sound?’ shit right now. I was brilliant and nobody was here to see it and I was still brilliant – I checked the hydrogen tank on the MAV struts. While the fuel plant did a marvellous job of nearly draining it dry of liquid hydrogen, there was still a tiny amount in the bottom that it would have used up in the 31 sols we were meant to be here.

I’m gonna use it to pre-load the catalyst with hydrogen which’ll slow the fuck outta the oxygen damage’s roll. It’s also what took me so long with the fume-cupboard crafting – I wanted to try and make as tight a seal on that shit as I could.

Fucking.

Chemistry.

One very important thing is in my favour though – whilst a part of the MAV fuel plant the catalyst needed a heater, ably provided by the fuel plant’s electrical source, in order to function. If I needed that now, I’d be fucked. I’ve got no long term way to keep the catalyst hot enough to function and this mission would be dead in the water.

Who doesn’t love a good pun?

Nobody?

Fuck you.

Wasted perfectly good humour on you unappreciative bastards.

You want straight up boring chemistry that I only know because Thor waxed poetic about it? Fine. Have your chemistry.

The catalyst needed heat in Mars conditions, but it’s fine in ambient-Hab temperatures. I can drip Hydrazine over it all the live long day and it’ll do its thing.

Happy now?

When I was hauling my ill-gotten booty back to the Hab I did actually think about only taking one tank into the Hab at a time, but through some hasty math that involved all my fingers and a few of my toes I deduced that even one tank was gonna be enough to blow New Brooklyn sky high so why not really embrace the Rogers Approach To Life – Rogers, you are rubbing off on me ‘cos I swear I wasn’t this crazy before - and take all the explosive shit into the Hab in one go.

I’m either suicidal or plain lazy, who the fuck knows?

But I could justify it – taking ‘em all in in one go cuts down on EVAs which keeps wear and tear on my precious CO2 filters to a minimum. It also reduces the number of times I have to shimmy my sexy ass into and out of my suit, which is time consuming on a good day, and time-consuming and excruciatingly painful on a bad one, and post falling on my arm, every day is a bad one but I can’t sit on my ass anymore waiting for the pain to reduce. I gotta get moving or I’m really gonna die up here. Not to mention if they’re all inside, they can’t get buffeted or damaged by winds because they’ll be protected in the Hab. Sure, if being thrown around the surface like a pinball during Storm Kill Bucky didn’t cause them to explode, chances are they’d survive just fine, but I ain’t risking it. I can’t lose the fuel or I really will die.

Besides, who doesn’t want an unexploded bomb as a roommate?
Okay, maybe I’m just lazy.

Don’t fucking judge me, I’ve only got 1.5 working arms.

It would have been fucking easier to drive to the pole, dig around, chip out a block of ice and just drag it back here. I don’t even care what shit might be in that water, it’s just gotta be easier to do that than all this crap.

I really am lazy.

Once I got all that inside – and I ain’t totally insane, the tanks are just inside the airlock as far away from the fume cupboard as possible, and the second it gets too hot for ‘em, they’re going back out - and was still in my suit, I went back out, unhooked the second full CO2 tank from the MAV fuel plant, hauled that over to the Hab and hooked up to one of the external valves, which some bright spark – shitty choice of words - had decided should be somewhere useful like chest height rather than over my head or some such shit, and released it slowly into the inner atmosphere, venting pure CO2 into New Brooklyn, and then hauled the empty, but not that much lighter, tank back over to the fuel plant and setting it all up again. Now I only have to do that another…too many fucking times.

Thank fuck most of the heavy lifting is done with. Finally a job up here that doesn’t require me to haul shit around. Once I get the decomposition going, assuming I’m alive, I’m actually gonna wanna stay the fuck away from it as much as possible.

Do your thing, Oxygenator, ’cos I need to lie the fuck down.

After all that I wanted to sit down and take a chainsaw to my arm and just hack the fucking thing off at the shoulder, but in lieu of that, I shimmied out of my suit, took half a vicodin and strapped my arm up in the sling for half an hour and waited for the agony to subside while I studied my new roomies for the best approach to get what’s in them, out of them.

For some reason, ‘cos I can’t figure out why the fuck they’d be there, the Hydrazine tanks have manual valves at the top. This is one of the best things to happen to me since I got here. If I had to try and brute force my way in, we’d be back to The Barnes Crater. All I need is a wrench, a cloth to deaden any potential sparks and abracadabra, I’m in!

I raided my supply of spares and snagged a spare hose from the Water Reclaimer. Natasha’s suit gave me the heavy duty thread with which to attach the Tube A to Valve B. I wanna do this slow and steady as I direct the fuel over the cracked catalyst chamber.

So that’s where I’m at.

No more excuses.

Fuck I really need a fifth a’ Jack before I do this because who wants to fuck with rocket fuel sober?

I’ve copied this log over into both rovers, and the reason I moved them this morning was to give ‘em a better chance of avoiding any explosions and thus future Mars explorers can have this riveting read of my last days.

And laugh amongst themselves at just how stupid I must have been to try this.

Well, future travellers, necessity might be the mother of invention, but desperation is sure as shit the father.

Fuck me, I’m going in!
Log Entry: Sol 33 (2)

Throw a fucking parade!

I’m not dead!

I’m alive.

I’m still converting oxygen into carbon dioxide!

This life thing is becoming a bad habit.

I’d like to thank the Academy, my parents, my…

Sorry, I’m just alive.

I guess y’all wanna know what went down.

Like the good little storyteller I am, I’ll tell you. Just don’t tell nobody that I’ve gone all soft on you.

With the heating system off it’d got real cold real fast. Hydrazine decomposition reaction releases some toxic shit, so even knowing it was going to get hot pretty fucking soon, I covered myself from head to toe; I eschewed wearing my full suit but I did wear the inner lining, including the downright fetching booties and gloves. Even threw on my snoopy hat – because why the fuck not - and y’all know how sexy those are. Thor has some super cool googles in his chem kit so I raided that and those kept my eyes and upper face good and covered – I go blind up here and I’m fucked. We have these hi-tech oxygen masks that are nothing like the ones you’re thinking off. Unlike the clear, kinda soft masks you’ll see on TV or in a hospital, these are solid, black and cover from nose to under my jaw and back to my ears. It’s like a mutant Darth Vader mask.

If you’re thinkin’ that I hummed the Imperial March theme as I went into battle, you’re damn fucking right.

Why was I breathing canned air?

Because it’s rocket fuel I’m working with. It’s fucking toxic. I breathe it in, and I’m looking at serious lung problems. When it’s broken apart, it’s still freaking toxic.

Why did I make like a human condom and cover myself?

Because this is fucking rocket fuel, do try and keep up.

The chemical burns it’d give me would be horrific. I’ve already got my Mars scar thank you so much, don’t need another. I can’t afford to get so much as a sniffle up here, let alone such serious problems.

Once I settled in and turned that valve for the first time, I don’t think I was even breathing.

Of course, after all that build-up it was pretty anti-climactic when I let the 1st drop drip into the chamber.

It sizzled and disappeared.
But I was smiling so hard my cheeks hurt inside the mask.

I just freed up hydrogen and nitrogen.

And lived to tell the tale.

Viva le hydrogen!

Now to collect the stuff.

The only other thing I have up here in abundance besides power, is bags. I would kill it as a bag boy at Safeway. Which by the way was the worst summer job I ever had. ‘Paper or plastic? Paper or plastic? Yes, ma’am I’ll put the eggs on top, yes ma’am sure I can completely repack everything that you literally just watched me pack and only now have a problem with, yes ma’am I can certainly just take everything out of paper bags and repack it into plastic…’

How I didn’t get arrested for murder that summer I’ll never know.

But I made like 17 year old me and headed over to my store of bags; I’ve got everything from small enough for a few cents to fit in, and thus useless to me, right up to bags you could bury a body in. Not that Clint and I tested this in any capacity, regardless of what Wade Wilson over in the NBL might argue.

First rule of NBL is not talking about NBL.

For the most part all the bags are up here they’re up here for Rogers and his geological surveys, with a handful for me and Thor. Nat, Sam, and Clint didn’t really have any use for them, but I could tell they were insanely jealous of our Hefty-having ways. Part of Steve’s mission was to test rocks from a variety of places within a 10k radius of the Hab, and he got so many bags so that he could take as many samples as he liked, even if he had to pick his favourites to come home with us and leave the others here. From the way he was agonising over it, you’d think it was Sophie’s Choice.

Sorry buddy, but my need is greater. I get home, I’m gonna bring you the most beautiful rock from this place. I got four years to find it.

Like all good fix-it men, I also got duct tape up the wazoo. It was my number one request for the payload. I even brought some extra with me in my personal kit. Duct tape is man’s greatest invention. My first car was held together by rust, hope and duct tape and the first two were not pulling their weight.

Is this fancy NASA duct tape that costs as much as a house?

Hahahahahahahaha! Nope.

Even NASA cannot improve duct tape. Nothing can improve on duct tape. It’s perfect. It’s user friendly, it’s super portable, it’s a seductive space-age colour and you don’t need any qualifications to use it. Who needs engineering when you can basically duct tape anything together with it? I’m literally trusting my life to duct tape right now. How many of you can say that?

Maybe I did breathe in some fumes…

I made like a grade schooler and went to town on some of the larger bags, cutting them up and taping them together to form a large tent version of a fume cupboard to keep the fumes where I want them, try to keep oxygen out, and hydrogen feeding right up the chimney I constructed out of some plastic piping and duct tape.
Okay it was a lot of really large bags stuck together and a hole cut in it for the pipe but fuck you. It’s a fume cupboard.

It was large enough to fit over the table and my crazy scientist get-up. The bags are see-through so I could keep my eyes on what I was up to.

Why did it take so long?

How many times do I gotta say this shit is gonna get hot? I have no idea the sorta temperature these bags can take, it ain’t like I get a manual for half this shit. I reinforced the joins as much as I could, I triple layered the bags in case the heat instantly melts ‘em. I’m about to find out just how hot they can get, but just in case, I didn’t just make one fume cupboard.

I made six.

Think that’s enough?

Back to looting Natasha’s suit - useless to me except for parts. Natasha is petite, like ballerina petite and I’m not - which is bravely sacrificing itself to the cause. Don’t go worrying that I’m gonna run outta suits or something: even with my flight suit kinda fucked, you’re forgetting I got everyone else’s suits. I’m like some fucked up collector. They’re worth less taken outta the box, right?

Damn.

Exhibit A of repurposing expensive NASA shit? Snaffling long strips of fabric from the suit, and rigging the other end of the pipe – repurposed tubing from spare Hab parts - up to the top of the Hab’s dome far away from me, the O2 tanks and the Hydrazine.

Safety first, kids.

That provided me with the little chimney to feed the fumes right where I want them after I securely duct taped the other end into the hole of the fume cupboard, sealing all the gases in. The hydrogen is gonna be hot after the reaction. As we all know, hot air rises. I’ll let it feed up the chimney – to get it away from burning my face off - and burn it off as it comes out.

How did this DIY nightmare cost thousands of dollars like I claimed, given it was made from space garbage bags and pieces of space suit?

Did you miss the word ‘space”? These ain’t your Walmart bargain trash bags, these are fancy-ass NASA bags. Which basically mean they cost about $40,000 a pop or some shit like that, and Natasha’s suit alone is worth in excess of twelve million dollars. Oh yeah, twelve million dollars. Bet that makes the Victoria Secret Fantasy Bra look pretty wallet-friendly. Even a few grams of her suit is gonna set you back a good few thousand dollars seeing as how it evens out to being worth about a million dollars per kilo of suit.

Now the invention of fire.

This might come as a shock but NASA not big on the burn-ables.

Literally everything they sent up here is metal or flame retardant plastic, even the uniforms are synthetic with some flame retardant coating thrown on top. They’ll melt, but they won’t burn. You can imagine how comfortable that is when you first break ‘em outta the packaging. It’s like wearing your jeans right after washing ‘em until they soften out. NASA, unsurprisingly, cares more about keeping stuff not on fire, than astronaut comfort. Though I guess being not on fire is more comfortable than the alternative.
Like the pop tents, NASA was not fucking around with this shit.

Seriously, we’re not even allowed pencils. Graphite conducts electricity and it breaks easy. In low gravity, that broken bit floats off, gets into a computer panel, it shorts out and everyone dies. There’s a reason NASA spent a fucking fortune on R&D to make a pen that’d work in microgravity and upside down and all that shit. To make pencils even more hated at NASA, the shaft of the pencil has the audacity to be flame-friendly wood.

So no pencils, which is a cryin’ shame ‘cos it’d be an awesome splint.

But to burn off the hydrogen and make water I need a pilot light. I won’t need it for long. The hydrogen is gonna be so hot, it’s gonna more than hot enough to continue the reaction with the oxygen to form water, more than hot enough to keep a teeny flame going without need for further wood.

But I need that flame.

What I wouldn’t give for a goddamn Bic.

So, how the fuck do I go about making fire, when the most flammable thing up here is actually me. Spontaneous human combustion anyone?

Lighter?

Nope.

Rub two sticks together?

Nope.

Flint and steel?

Fuck, I hope not. Besides, that’s only a spark, and I already know how to make those. I ain’t got something to burn.

I wonder if I put metal in the microwave it’d catch fire? Except I kinda need the microwave and after what Barton did to it on Sol 5...but that’s a story for another time. Let’s just say it deserves to live its life unmolested. At least in lieu of being taken out the back and shot to put it out its misery. Besides, it’s not controlled enough. I’m gonna need to control the burn several times.

Think, Barnes, think! I was a freaking boy scout, I should be able to make fire. Is that too much to ask? Just a little mild arson. I just want to make water, not fire flaming arrows into Helms Deep.

Flaming arrows.

Barton, I’m going to kiss the stuffing out of you. I’m gonna do indecent things to you until the day I die. Which, incidentally, wasn’t today!

I bet you want me to explain, huh?

I’m feeling magnanimous, what with figuring out how to burn shit.

Trying to find something, anything that would burn, and sure it was futile, I was back to invading my crewmate’s privacy and rifling through their shit.

Don’t you fuckin’ eyeball me like that! If they wanted privacy, they shouldn’t ‘a left me here with
their stuff, now should they?

Possession is nine-tenths of the law and I’m the king here.

But I found my answer.

Long live the king!

Remember Clint’s archery?

Well, what I didn’t know is he brought his lucky keyring with him. It’s a little bow and arrow set that he carved from the first bow his adoptive dad gave him when he was a kid. I don’t really remember the story, Clint was pretty drunk when he told it and I was really drunk when I heard it, but when he was a teen the bow got broken. He was devastated but his dad taught him how to wittle and carve. He carried the little keyring everywhere. When I found it, it still had his car key attached. Yeah, you heard right, the idiot actually brought the key to his Challenger with him. He really didn’t want his brother driving it while he was away. If I live, I’ll try and bring it back for him. Although by then, I guess he’ll have broken into it…

But that’s not the point – I got wood!

Shit.

That came out way wrong. I ain’t that excited.

I have a flammable material!

Bet NASA woulda given him such shit over it if they knew, but he’s a stubborn son of a bitch. I don’t even wanna know where he stashed it to get it on board, and I’m genuinely wondering if I should be washing it down with antibacterial gunk, but I’m gonna smooch the shit out of him for smuggling this up here.

Sorry Sam, I still love you too, I’m just sharing my smooches around.

I chipped the thing up into long splinters by the complex scientific method of attacking it with a screwdriver and pliers. I figure that given the situation I’m in, Clint will forgive me and I could use all the luck I can get.

You think luck is transferable from person to person? Clearly the thing worked for Barton – he’s part of Ares 3 and he’s got Natasha. Or he will once they get home, and despite being a complete moron half the time, he’s actually an amazing guy, so either he’s got incredible luck, or the universe is on his side. Either way, I could use a little bit of it. Because now I need a flame.

I can’t exactly rub sticks together until friction gives me flame. I mean, I could try, but they’re smaller than a match.

Lucky for me I got lotsa wires and lotsa batteries to create sparks. Do not try this at home, kiddoes. Wires and batteries are all well and good, but that’s just a spark and I don’t have kindling to encourage it, and like anyone who has ever tried to light a wood-burning BBQ or a fire knows, a small spark just ain’t gonna cut it to get that wood burning.

Out I trundled into my vast kingdom, collected some dried grass, a few leaves, stripped a couple long ribbons of bark off the local trees and made like a Boy Scout and presto, fire.

No.
Not.

Fuckin’.

Really.

When I created the spark, I vented pure oxygen over it and that did the job.

Do not try that at a home, kiddos.

No, really. I’m in deep enough shit without having your parents trying to sue my Martian ass. Y’all don’t want my estate. It consists of a bunch of growing potato plants, tens of metres of literal shit, an MDV with one not-so-careful owner, and two admittedly super cool rovers.

Armed with my torch which I placed over the top of the ‘chimney’ of the fume cupboard, I restarted the Hydrazine flow and it did the sizzle thing and disappeared. Pretty soon short bursts of flame licked out of the end of the chimney. Between the exothermic reaction going on in the chamber and the fire out the chimney, I had to be careful about the temperature – it’s already gonna be like the jungle in here, I don’t wanna turn it into a super sauna too - so I kept it slow and steady, a drop every few seconds and no faster.

It worked!

Each of the six tanks of fuel hold a bit over 50L, which will net me 100L of water. I’ve got to be careful and not get too excited about that and burn (literally) through my oxygen reserves faster than the Oxygenator can do its thing. Remember how patience ain’t my thing? It’s gonna have to become my thing. I can’t run through my oxygen, and besides, I gotta keep the reaction slow or I’m gonna burn to death in here. It’s gonna fuck my run rate but what choice do I got?

Hydrazine might accomplish what my mother spent decades attempting – teach me how not to be a bull in a china shop.

If I didn’t have to keep an eye on the stuff – what the fuck I think I’d do if something did go wrong, I dunno seeing as how it’s gonna happen in about 0.3 seconds – I’d decamp to a rover. Cramped and uncomfortable it might be, but it’s also climate controlled.

But I’m so happy right now I’m willing to use half of my reserve of O₂ which was already topped off from the first CO₂ tank. The Oxygenator will replace it tomorrow when I vent another CO₂ tank into the atmosphere.

By then, I’ll have 50L of water!

Making it rain baby, making it fucking rain!

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Log Entry: Sol 34

Fuck me that was slow.

Wanna know how slow?

To be as safe as possible while fucking around with rocket fuel, I limited the flow over the catalyst to
a drop every 3 seconds. There are 20 drops of liquid to a millilitre.

That’s right, it takes me a minute to do one measly millilitre of fuel.

Been at it all night, but it’s done!

Right now, New Brooklyn is a rainforest – even keeping track of the temperature it’s an uncomfortable 30°C in here even with the cooling system running for forty minutes of every hour – I really don’t want the fucker to crap out on me - and the humidity is through the roof with 50L of water in the air. I sealed most of my clothes up in the NASA – aka expensive – version of those space saver bags that are on every late-night infomercial channel, and am wandering about my kingdom like the Emperor with new clothes.

Yes, I put a tarp down on the areas I wanna sit. I wasn’t raised by wolves.

It is way too fucking hot and sticky to deal with shit like my balls sticking to my chair. It sure as fuck ain’t helping with the whole ‘Bucky is starting to smell like roadkill that’s two weeks dead’ I got going on. I can’t even claim to be the first man naked on Mars.

Big shock, that was Clint. Apparently it was ‘too fucking early to get dressed’ which didn’t make any sense at all because he had to undress in order to be naked. He did not put down tarp on the shit he sat on.

Even wolves would be appalled at that guy. I’ve seen him naked too many times.

Way too many.

But while coping with the flashbacks of Clint and Wade daring each other to skinny dip in the NBL during a training run is something I’ll forever struggle with, the Hab is being a pro at dealing with the mess I’ve made, patient as a mother with a toddler as it goes about replacing the oxygen I’ve used and the Water Reclaimer is doing its best to pull the water out of the air and make the place more liveable, because fuck me it’s like a fucking steam room in here. Nothing to be done but wait – no windows, no air con.

Y’know how I actually wanted to go out to the rover despite what’s probably hours of me bitching at how much I hate living out of one? I maintain the right to change my fucking mind. If it weren’t for the fact I wanna make sure everything is okay, I’d have bugged out to R2D2 by now. At least in there it wouldn’t feel like I was trying to breathe underwater.

If you think my whinging is bad, you outta check out the Hab ‘cos it’s got a lot to say on the subject. Patient it might be, but that don’t mean that it’s suffering in silence. Brooklyn ain’t the sorta neighbourhood that suffers silently, and New Brooklyn ain’t any different. Growing up in New York gave me all the training I need to ignore the million and one alarms that are up here.

Why am I complaining about the alarms and not turning them off?

Well, gee, I fuckin’ wonder.

I’ve gotten so used to various alarms blaring I think it’s gonna be a real shock when they all stop. Now the fire is out, the fire alarm has packed it in. In a few hours the low oxygen alarm should put a sock in it, but the high humidity alarm isn’t gonna be silenced by nobody, no how for most of the day.

One alarm however is welcome.
The Water Reclaimer tank is full.

Fuck yeah!

Remember all those tubs and shit I piled up against the wall? Now is their time to shine! I grabbed a couple of the largest boxes, ditched the lids and snatched up my bucket, happy as a kid on Christmas. It took about ten trips back and forth, but my bucket and I emptied that tank into the largest box and started in on the second.

I got water, baby!

I’m also fucking exhausted.

Between the stress of trying not to kill myself all night long, the heat sapping all my strength and energy, no sleep, not enough food and hauling the water around I’m just done. My left arm left ‘trembling’ behind hours ago and is at straight up shaking. Even when just hanging at my side. I can’t lift it past my shoulder again, and the pain is killing me. I’m starting to worry that there’s nerve damage in there, or something wrong with where the antennae hit the bone. The arm just feels… wrong. It doesn’t seem to respond as fast as my right arm when I reach for stuff and my grip is definitely weaker. If I’m honest I can’t grip for shit with that hand. If I had any sorta sex drive left and was a southpaw, I’d be fucked.

Or not as the case may be.

Areas of the upper arm are also numb to the touch, I can stick a damn hypo in there and I can’t feel a thing. I dunno if that’s inherently bad or not, but I’m guessing it’s not good either. Earlier I raided Barton’s laptop and found a buncha exercises to try and improve the strength and movement in my arm, there’s even shit about running different textures over numb skin to try and get feeling back so raided everyone’s shit for anything I can use ‘cos hey, all I got up here is time.

Hope they work.

Gotta say, feel kinda pervy using Nat’s hairbrush to rub the bristles over my skin. Real glad nobody can see me doin’ that ‘cos it’d be really fucking hard to explain.

I don’t know what I’m going to do if the exercises don’t help. I don’t know what to do period. Kinda wishing I was an MD not a PhD right now.

For the mean time, I popped another vicodin. Well, actually, I snapped it in half to see if that’d be enough – I’m gonna be up here for four years. I can’t just down pills and shit all the time – I’ll run out. And fuck knows if something worse is going to happen but I know my luck. Soon as I was done with my water hauling, I strapped my left arm back up into the sling and crawled back into my bunk. I gotta do my exercises but it’s hot, I’m in pain and I don’t want to.

Even with all that fuckery, I’m in the best mood I’ve been in since Sol 6.

Things are going great.

With the water I can feed the plants.

The plants can feed me.

I might survive!
Log Entry: Sol 37

I fucked up.

I’m going to die.

Fuck.

Log Entry: Sol 37 (2)

Okay. Okay. I’ve gotta breathe and calm myself the fuck down.

There’s a way through this, I just need to figure it out and freaking the fuck out ain’t gonna do that. Not to mention hyperventilating ain’t gonna help the O2 filters.

Deep breaths. Calming breaths. Just gotta keep breathing. Which is not something I’d be able to do if I were still in the Hab. Not breathing. Not making water. Not surviving fucking Mars.

Right now I’m writing this from R2D2, a nice distance from the Hab. I’m a nice distance because the first thing I did, while still freaking out, was to drive it even further away from the Hab, far enough away that New Brooklyn is but a dot to me.

Why am I not in the Hab, revelling in my godlike powers of water production? Didn’t I go on about how I needed to stay in the Hab and keep the experiment under my watchful eye even if it meant I spent most of my time bitching about it?

Yes, yes I did.

So why did I leave?

Because I fled in fucking terror, trying not to shit myself. Not that the fleeing will accomplish much because if the Hab blows, it’s not like R2D2 could keep me alive more than a few days.

Brought extra filters though, so that’s something.

And they say I can’t be taught.

I know I’ve said a few times since I got left here that I’m totally fucked, but trust me, this time I’m so fucked that Mars stayed the night, made me breakfast and promised we’d go out again soon.

That’s pretty damn fucked.

In case this is my last entry, I’ll explain the issue so y’all know how I killed myself.

The making of water has been going swimmingly.

I’ve said it before, blame my ma for my sense of humour.

I was even starting to think I’d have enough to maybe mock-up some sorta bath if I nuked the water in the microwave so I could soak my abused self. Maybe get so crazy as to get my hair super clean. It was gonna be so sweet. I was getting a little drunk on the power trip of it all – is this how the popular kids in high school felt, because lemme tell ya, I’d have been a total shit if I’d felt this good
all through school – and, after ripping up parts of the insulation I had access to through the floor to counteract the faster increase in temperature, beefed up the fuel plant’s efficiency because the drip-drab method was working but slow as fuck and driving me crazy and I’m an impatient little shit. I’ll save you from the hows but it was seriously technical and involved much electronic jiggery pokery and you’d be so impressed with me when you woke out of your science coma.

Nah, not really. I just wanted to sound cool. I just upped the voltage to the pump and voila.

Which means I was making more water faster. Sounds good, right?

After that initial burst of 50L on my first night of doing this, seeing as how I’d sped up how fast I was gonna get oxygen I figured I could afford to slow it down and not run the production 24.6/7 like I’d planned. Instead, I’d let the Water Reclaimer wring the air out so I’m not living in a steam room, and just make water at the speed I was getting O2, being careful not to drain my reserves.

Okay, I’ll admit it. I didn’t so much decide that as Mars, because why the fuck would I decide to up the speed at which I’m making water only to decide later ‘nah, I’m good with the go slow approach’?

Because Mars is a fucker, that’s why.

After a sol of going stupidly close to draining my liquid O2 reserve to get as much water as possible asap – impatient little shit, remember - content in the knowledge I could just haul a CO2 tank over and set the Oxygenator to work, Mars decided to teach me a lesson about humility, or not counting my chickens, or some shit. The storm was so bad all that would have happened if I went out the airlock to fetch a CO2 tank was my death.

And I’ve done that.

Did remind me to set up some sorta linkage system between the airlocks and the important shit outside so I can safely get to a rover or the fuel plant when it’s stormy.

Took almost a sol and a half for the storm to die down, during which I absolutely did not lie awake, huddled in an enormous hoodie and a good few blankets, curled into a ball in my bunk listening to the howls of the wind and the thuds of all the shit pulled up outside that the wind slammed into the canvas as though the hounds of Hell were trying to get in.

That’s Mars for you: knock loudly, kill silently.

I played Golden Girls as loud as I could get it and when that wasn’t loud enough I spent a productive two hours distracting myself with figuring out how to hardwire my laptop into the Hab sound system so I could have Bea Arthur in glorious surround-sound to drown out at least some of the storm.

Didn’t work as well as I’d hoped but who knows, maybe listening to the dulcet tones of the Golden Girls will help the plants grow. Can’t hurt, right?

So now, because I am older and wiser, the moment the O2 tank reading drops to 25L, I stop fucking around with the Hydrazine and find something else to do until it gets full again.

I’m learning not to tear my hair out from impatience. I need to get the potatoes into the ground. I need to get the damn plants growing. I need to not be fucking about making water slowly.

But I’ve got no choice. I have to be sensible, and apparently up here on Mars, you can be fast or you can be safe, but not both.
Guess I'm plumping for safe.

Yeah, that disappoints me too. I know, I know, it's almost like I've changed as a person. I even spent my last downtime setting up a length of cord between Airlock 3 and R2D2 in case I need to get to it asap – didn’t need it as I ran from the Hab like…well like it was gonna kill me – 'cos the Hab loses integrity or something.

I don’t even recognise myself.

Spent some time after that getting back to my roots. There’s only so much responsibility and sense that a man can take.

What does that mean?

Naked pool.

I’m actually better at pool when I’m naked than when I’m wearing clothes. A far number of people seemed to appreciate me bending over tables, so maybe I wanted to give ‘em a good show. I don’t wanna brag or nothin’, but back at NYU I could make any game ‘strip’. Unless you wanna see more of your friends than you want, do not play strip-Pass the Bomb.

Shit choice of words, come to think of it.

With a handful of Thor’s glass beads – no, I don’t know what the fuck they’re for either – and a 1m drill bit, I had a way to pass the time when I was really fucking bored. After I spent ten minutes looking for a bead that went flying off the table, I did what I should have done in the first place. Ten minutes, and a couple dead Sharpies later, the previously see-through beads were a variety of totally unapproved colours. You ever tried searching for a clear glass ball that’s less than an inch in diameter?

I never fucking found it.

Don’t look at me like that. Thor’s got a fucking huge box of ‘em and it ain’t like he’s using ‘em. I don’t even have cards up here, I gotta have some form of entertainment after all the terror and water hauling.

I actually didn’t make 50L of water per se in that first burst of reckless water-making. At least I didn’t have to store 50L so my stack of Matryoshka tubs sat unnecessary against the wall. The soil I was making the water for was pretty fucking dry – it’s about a step up from sand, remember - so it sucked up the moisture from the air before the Water Reclaimer could even have a chance to work its magic. That saved me having to water the plants given that’s just where I wanted the water to go.

Which is great because I haven’t yet cobbled together a watering can. I’m getting’ round to it, I swear.

Still, I wasn’t too bothered that I didn’t have to bucket around 50L of water.

What can I say, I’m lazy. And tired. And my arm hurts. And water weighs a lot.

Mostly I’m just fucking lazy.

After my tinkering, I get 10L of CO2 every 15 hours now instead of 20. I know that doesn’t sound a lot to you, five hours, but to me, it’s a crucial. That’s 25% time saved. Since then I’ve done the dance four times: collect, vent, trickle, burn, repeat, meaning that reduction in time to collect the CO2 has saved me a whole sol.
Again, that might not mean a lot to you, but I need those fucking potatoes asap and I’ll take a sol saved. That extra sol is an extra days growth of the plants.

A sol saved is a sol earned.

Or some shit.

But of course that small triumph was just a smoke-screen to me getting fucked over. You’d think I’d be used to that by now. I can’t even find the energy to be pissed, it’s like I’ve been emptied of fury, instead it’s the ice cold of despair and fear that gripped me instead.

I should definitely be used to that.

The real shitkicker? I should have seen it coming. What’s the longest I’ve stayed up here without fucking up or almost dying?

Don’t answer that.

It’d been going so fucking well. The weather had co-operated, the O2 tanks were topped up and healthy, the breaks between burns were enough to keep the temperature down to a point where I wasn’t broiling – though you ever superheated shit? Trust me, don’t – all the time, between the cooling system, pulled up insulation, and turning the Hab losing heat all the time with the heater off.

Fucking false sense of fucking security.

Y’remember how I built the levee around the Barnes Farm? How I said they’d not be 100% but should stop most of the water escaping? That was my first clue.

They were working too well. Not a single drop of water was trying to escape the farm.

Sounds like I’m just bitching about nothing, right? That I’m just trying to find some shit to complain about.

That’s what I told myself too. But the more I started thinking about it, the more I couldn’t stop.

I hadn’t finished all the doubles that I needed to make the Martian sand more soil like so a huge part of the expanse of dirt should have been like a sieve. The Water Reclaimer can only pull the water outta the air so fast, and some of it shoulda been absorbed into the soil, run through and started to try to escape the levee. The portion of the farm that is soil was pretty fucking saturated anyway from the first 50L so it shouldn’t have pulled in that much more. Even if more had been absorbed into the soil than I expected, the upper layers of soil would be a fucking mud-pit.

That was my second clue.

Spoiler alert – I wasn’t standing in a mud-pit. Besides, I’ve been under instruction from Danvers not to get into a mud-pit unless I’m in a speedo and about to wrestle someone. Preferably Steve, preferably when she’s had time to sell tickets.

I got no problem with that.

I do got a problem now.

Trust me on the math but, including my first 50L production, I should have netted myself a cool 130L of water.

But my maths seemed to be a fucking liar.
Between the tubs that finally got used after the second round of water production and the WR tank I could only account for 70L. Sure, there’s a shitload of condensation on the walls, dome, me, everywhere, but not fucking 60L worth. That woulda been over 130 lbs of water -the fucking tarps would be pulling down off the ribs.

Even if I was only missing 30L and the rest was in the soil, where the fuck was it?! I need that 130L. My plants need that 130L.

Any of you figured out how I fucked up?

No?

No takers?

C’mon, you know you wanna make a fool of me too. Not that it’s hard.

Clearly no chemistry majors are reading this. Well done, children. Stay away from chemistry. It’s a shit show.

But because I’m all benevolent, I’m happy to share just how fucking stupid I was.

Am.

Whatever.

I tried to go through shit systematically, and be calm about how I’d lost half of the water I’d literally risked my life for. I checked my maths. I rechecked my maths. I rechecked it again. Each and every time it came to 130. I ran a diagnostic on the Water Reclaimer. I ran another diagnostic. I shut the damn thing down and tinkered about inside, checking the tubes and pipes for blockages or problems. Everything was squeaky clean. I checked and recalibrated the system on the tanks to make sure they held the amount of water they said they did. I then emptied the tanks into my tubs to measure it by hand.

Everything was fine.

Except the water was MIA.

I checked the Hydrazine tank praying that I’d misread how much I’d burned.

I hadn’t.

I tested the soil moisture content even though I knew there was no way it’d sucked up that much water.

Whaddya know, it hadn’t.

The water wasn’t in the air.

It wasn’t on the tarps.

It wasn’t in the soil.

I reacted in a sensible, intelligent, and above all, mature manner.

I punched the wall of the Hab.
Repeatedly.

It was when I was shaking out my hand and swearing that I noticed the gauge on the O2 tank next to me. Because O2 burns like nothing on earth, the two tanks are on opposite sides of the Hab just in case something actually created a spark, or some moron brought rocket fuel home as a pet.

It’s kinda pointless really. The tanks hold a shit-ton - official technical term - of an explosive. Just one of the tanks blowing is enough to rip the Hab open like a tin can, leaving everyone inside to get sucked out and die horribly, so it’s laughable that NASA thought that separating the tanks would make us safer, but that’s security theatre for you.

The Hab can pick and choose which tank it uses to vent O2 into the atmosphere, just as it picks and chooses which to deposit bright shiny new O2 from the Oxygenator into, and it has been alternating between the two tanks for weeks just like it’s meant to. There’s not really any rhyme or reason for which tank it uses unless a tank is running low in which case it’ll always top that one off first. It turns out its been topping off the oxygen in the atmosphere as I burn it from Tank 1. But as the Oxygenator adds oxygen from breaking down the CO2 I’m venting, the Hab has been evenly distributing it between both tanks, so Tank 2 has been slowly gaining more oxygen while Tank 1 is remaining pretty steady.

That’s not the problem. That’s by design. Totally normal and okay. But it means I’ve been gaining more O2 over time…so I’m not using it as much as I’ve been thinking.

I know what you’re thinking – Yay more oxygen, make more water!

Do you think I’d be this fucking terrified if this was a good thing?

Trust me, the truth is way more disturbing than that.

I’m gaining O2. But the amount I’m bringing in from the MAV fuel plant is fixed. I know exactly how much CO2 is vented into the atmosphere and how much O2 that creates as a result. I know how much oxygen is used in the water production. I know exactly how much O2 the tanks should have in them as a result.

But just as there’s less water, there’s more O2.

No, I’m not just shitty at maths, fuck you very much.

There’s only one reason that I’d have more O2 than I should – I’m not burning it all off as I make water.

But my Hydrazine reaction, or at least my assumption of how the reaction was going, is that I’m using all of it, just as I’m using all of the hydrogen. Which is where this gets dangerous – If I’m not using all the oxygen, I’m not burning off all the hydrogen.

You remember how I called chemistry a sloppy bitch? Sorry Thor but you know it’s true, just admit it to yourself.

This is my proof.

New Brooklyn is now Hydrogenville.

Population 0.

And I have scientifically proven that either luck from one person’s lucky object cannot be transferred
to someone else, or, that lucky objects are bullshit.

I had assumed - dammit Jim, I’m a fucking botanist not a fucking chemist so shut the fuck up about what assumptions make of you and me – that when the hydrogen passed over the flame, that it’d all burn off. Instead of doing the decent thing and burning, some of the hydrogen just flipped off the fire and went on its merry way, off to mingle in the atmosphere.

Just waiting.

Waiting to do what, you might ask.

Waiting to blow me the fuck up!

I thought assumptions were supposed to make an ass of you and me. Not blow you the fuck up. Is it a one strike rule, or something? Make one assumption and the punishment is immediately death?

What the fuck happened to proportional response?

When I figured this out I freaked out calmly scrambling into donned my suit, found a Ziploc and wafted it around like the lunatic I now am before sealing it, grabbed a couple filters and split.

I ran to the rover. If you never seen someone run in a spacesuit it’s pretty fucking hilarious. It’s more of a skip and waddle.

I’m not laughing.

The atmospheric analysers in R2D2 told me all I needed to know – Oxygen 9%, Nitrogen 22% and then the doozy.

64% Hydrogen.

Sixty-fucking-four percent hydrogen. Let me put that into perspective for you; the percentage of hydrogen in Earth atmosphere is 0.000053%. This is why we don’t go around blowing ourselves up when we light up the grill. Well, most of us don’t. Wade’s an outlier. If I hadn’t noticed the Mystery of the Missing Water, chances are I’d have died sooner or later anyway – the amount of hydrogen would have continued to rise and I’d have suffocated.

Told you I’d fucked myself but good.

If I go boom, I die.

Don’t go boom, I still die.

Given the option, I’ll take the fast burn over the slow gasp.

Scratch that.

Given the option, I’ll take life.

As you can tell, I haven’t gone crawling back to the Hab yet. I ain’t so proud that I can’t admit I’m hiding in here. I mean, I could spin some macho bullshit about tactically retreating, but I am flat out hiding. I will remain hiding until my brain stops blazing ‘I’m fucked’ on the back of my eyelids every time I blink, and I can actually think for five minutes straight about how the fuck I’m going to fix the problem that I created for myself.

So that’s why I’m in R2D2. But although it and I are getting along swell, I can’t do the knock-kneed,
yellow bellied thing for long. Not because I’m too much of a man to be cowardly for long. Given my current state of fuck-up, I could happily be the Cowardly Lion for the rest of my life.

Which is looking increasingly short if I don’t figure shit out. The rover and I are gonna have to part company in about two days because the CO2 filters will get saturated.

If I survive, remind to pack a whole lot more spare filters in the damn rovers.

So that’s my current choice – suffocate or blow up.

Thanks, Alex. I’ll take ‘Ways in Which Bucky Can Die’ for $300 please.

You know I mentioned how I had to stop using the word ‘boom’ or it’d become a self-fulfilling prophecy?

I stopped too late.

Bucky Go Boom.

The Hab is now a fucking bomb.
Meanwhile, onboard The Valkyrie things aren’t looking much better than on Mars

A short interlude as to how a certain someone has been coping since Bucky’s ‘death’

Steve Rogers stood in the doorway to Barnes’ room. It’d been weeks since they’d left Mars, left Barnes, and still he’d never been able to bring himself to enter what was still, in his mind at least, Bucky’s private space. Over a year was a long time to spend with only five other people with limited space to retreat to, and as a result the crew had set specific and unbreakable boundaries even before they’d set foot on Valkyrie; their rooms were their sanctuaries. A closed door was a polite ‘fuck off’ unless someone, or the ship, were in immediate danger. In any other circumstance, decorum prevailed – knock and wait for a response.

The first time Steve had found himself outside Bucky’s room, half asleep and exhausted, force of habit had raised his fist, three short raps requesting permission to enter before he’d remembered, the door, left ajar by Bucky –against regulations – when they’d headed to the surface, swinging open to display just an empty room.

Standing in that doorway, as he had countless times before, Steve’s own life had flashed before his eyes as if he’d been the one swept to his death; sitting in a shitty London pub sharing a drink as he asked Barnes to follow him…the smile that’d lit up Bucky’s face when he’d set up a surprise firework show for Steve’s birthday, driving his Commander out into the desert, away from the city lights, the pair of them sprawled out over the hood of Steve’s shitty car, the rest of the crew spread out around them…sitting at Winifred’s table for Thanksgiving, the Barnes matriarch refusing to allow him to spend the holiday alone once she heard he had no family…the moment that would forever haunt him when he’d had to give Sam the go to fire the MAV’s main engines.

Dragging his exhausted brain back on track, Steve shook his head and propped an arm on the bulkhead. He was so fucking tired. Tired of the pain, tired of second guessing himself on his command decisions, tired of missing Bucky. For as long as he could remember, Steve had only wanted to do what was right. It’d had led him to the military, and then what had led him to leave it and join NASA. Now he wasn’t sure what ‘right’ was anymore. He’d thought he could throw himself into his work, into following orders and carrying out mindless experiments, that he could push his grief down just like he always had.

Nothing felt the same anymore.

He choked out a harsh laugh. Peggy was right: he was dramatic.

He wished she was with him; Peggy had always had a way of putting everything into perspective, her presence an intoxicating mix of passion and steadiness.

Forcing himself over the threshold, Steve’s head swam and he propped an arm on the bulkhead. He was so fucking tired. Tired of the pain, tired of second guessing himself on his command decisions, tired of missing Bucky. For as long as he could remember, Steve had only wanted to do what was right. It’d had led him to the military, and then what had led him to leave it and join NASA. Now he wasn’t sure what ‘right’ was anymore. He’d thought he could throw himself into his work, into following orders and carrying out mindless experiments, that he could push his grief down just like he always had.

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He wished she was with him; Peggy had always had a way of putting everything into perspective, her presence an intoxicating mix of passion and steadiness.

Forcing himself over the threshold, Steve’s head swam and he had to catch himself on the wall, until the room stopped spinning gently. The engineer had left his living space in what was, for him, a relatively neat state. The small bunk was made – for a given definition of made that did not match what Phillips considered the term to mean - his tablet poking out from under the pillow. Beneath the
bed, Barnes’ Personal Preferences Kit, his box of personal items, was shoved only part way out of sight, the lid on the floor beside it, a pair of ear buds dangling over one side, horrifically tangled. The small shelf that masqueraded as a desk was barely visible beneath the haphazard piles of folders, schematics, and an old sweater, arms hanging over the edge to spill onto the chair. The faint vibrations of Valkyrie caused the sleeves to sway, almost imperceptibly, as though Bucky was making one last gesticulation to hammer a point home.

That he was gone, for instance.

One corner of the desk was neat, a small digital picture frame displaying pictures of Bucky’s family and friends, the image morphing into another every fifteen seconds. Over the past few weeks Steve had spent enough time in the doorway to have memorised the order; the current image - that of Becca on her prom night, radiant in a purple gown as she smiled broadly at the camera, the young man at her side looking faintly terrified, no doubt reeling from getting the shovel talk from his date’s brother – would slowly fade into a picture of a much younger Barnes, his smile wide, mortarboard at a jaunty angle, the tassel obscuring the left side of his face, arms slung around the shoulders of two friends, one a burly moustached man wearing a bowler hat and a hockey jersey over his robe, and the other an Asian man wearing an expression of long-suffering forbearance. That in turn would fade into a decades old capture of an infant Bucky on the lap of a man Steve assumed to be his father, trying to blow out the candles on a cake that sat before them.

Snippets of Bucky’s life carried on while he did not.

He was gone. Just like that.

Steve couldn’t fathom it.

He wasn’t a stranger to death. He’d been four when he’d attended his first funeral. His father had never been a well man but even his doctors had been shocked at the speed of his decline. The estimate had been that he had years left with his family. He’d barely made four months. Steve hadn’t understood a lot of what was going on around him, but he still caught more than the adults around him would have imagined. He remembered standing beside the grave, the blue straps the coffin rested on before being lowered into the ground garishly bright in the low winter light. He’d not been able to take his eyes off them as he tried to work through his thoughts, the words of the priest a mere murmur to him, the feel of his mother’s hand in his fading into the background.

It had made no sense that his father was in that box. No sense that he’d never come through the front door again. No sense that he’d never chase Steve through the house as they played soldiers. As he stood beside the coffin, all he’d been able to focus on was worry that his father would be lonely. That he’d be lost in the dark. That angels would not come for him, that the priest was wrong. Steve had started to cry as the coffin had been lowered, clutching at his mother’s hand, turning his face into her thigh, her hand coming up to stroke his hair. All he could remember after that was the muffled sobs of the others by the graveside, the rustle of the few remaining leaves on the trees, the scent of roses that adorned his father’s coffin.

He’d become a lot more acquainted with death after that. But he never understood it any more than he had that snowy winter morning.

Steve stepped further into the room, leaving the door open behind him. He felt like an interloper, like he didn’t belong, like he was invading a private space. It’d been the same the first time he’d entered his mother’s apartment after she’d died, returning there from the hospital to be closer to her somehow. He’d never gotten past the narrow front hall, folding up beneath the coat hooks, the lengths of her too-long scarf, the same one she’d had all his life, resting against his neck as he stared dispassionately at the opposite wall. He couldn’t fathom how that scarf was still there when his
mother wasn’t.

Dropping to the bed, his heels thudded against the side of the PPK and he leaned down to tug it out, the box resisting, a baseball cap getting caught in the metalwork of the frame, popping free when Steve gave the container a particularly vicious heave. Was that all a life came down to, in the end? A box of random items? Bucky had been the brightest star in Steve’s world, and all that was left of him was this. It was impossible to believe. Steve had spent enough time around physicists to know that nothing was ever truly destroyed, that instead energy simply transformed from one form to another.

Cradling the cap in his hands, Steve supposed that was meant to bring him comfort, that what had once been would be again. His mother’s faith had taught him the same. ‘Everyone that lifeth and believeth in me shall not die forever.’ Steve had heard that at almost every funeral he’d attended. Science and faith, two of the greatest driving forces of his life, converging to state much the same thing.

Yet Steve found no comfort in it. No comfort in empty words and empty arms. Bucky was still gone, and he was still alone. Instead, all he could do was reach out with a shaking hand and snag the abandoned sweater, holding it to his chest. It’d been weeks, but he let himself believe that if he could breathe deeply enough, he could detect Bucky’s scent, the spice that couldn’t be attributed to soap or shampoo. He stroked the fleece of the sweater, soft even with the layers of Teflon and flame-retardants. Steve remembered how soft Bucky had looked in it, how approachable as he hunkered down in the shawl neck and thick folds, as though it were more blanket than sweater. Back then it’d been the most attractive piece of clothing Steve had ever seen, his hands itching whenever Bucky wore it to stroke down Bucky’s arms, or clasp his shoulder, impulses he fought down with years of training in denying himself what he wanted.

To think, Bucky had once filled it out. Worked in it. Laughed in it. Slept in it. And now he was gone, and all Steve was left with was a baseball cap, a sweater, and picture frame. Without Bucky safe and warm within it, without Bucky to give it shape and meaning, it was just a piece of cloth, nothing special about it anymore. Running his hand down the arm was nothing like it had been. Pressing his palm to the body of the sweater didn’t let Steve feel Bucky’s heartbeat.

Holding it to his own chest, Steve choked back a sob.

“I miss you.”

As a child, after his father had died but before his funeral, Steve had sat at his bedroom window, kept awake by the unfamiliar voices comforting his mother as she wept in the living room. He’d seen a falling star, and remembered what his father had told him. He’d closed his eyes, and with the fervour and innocence of youth, he’d made a wish with all his heart.

To no avail. His father hadn’t been returned to him.

Three days later, as his father’s friends and colleagues had carried the coffin into the church, Steve had lost all faith in wishes and prayer. His mother had spent years praying at her husband’s bedside for God to make him well, the beads of her rosary worn smooth with how often she implored to God to save her love, to keep her family whole. After his father’s funeral, Steve had never forgiven God for not only failing to save his father, but his mother too. She’d been exposed to an unknown virus at work when she’d been attacked by a patient fifteen years later, dead within 48 hours, but Steve knew that her true cause of death had been a broken heart. She’d died of wounds sustained the day his father died.
Wishing, praying, none of it had done any good, however Steve still offered up both, his memories and feelings for Bucky so strong that it seemed as though if he could just pray hard enough, just will it enough, he could bring Bucky back into being. That the sweater in his arms would suddenly fill out, that Bucky’s hands would be clutching at his back as his arms held Steve close, his sweet breathy laughter in Steve’s ear as both men fought not to roll off the narrow cot onto the floor.

Tucking himself into a ball, Steve lay down on Bucky’s bunk and watched the pictures change until they blurred before him, eyes burning and chest aching as silent tears slipped one by one to the pillow.

“Bucky, no!”

“I can’t leave him.”

“Help me. Please help me. We have to find him.”

“Go without me.”

When Steve woke, his eyes felt gritty and dry, what now felt like a permanent headache thumping between his temples, pulsing to the rhythm of his heart. He came awake slowly, rubbing at his eyes with his fists. A glance at the clock embedded in the wall over the desk told him that he’d been in the room for several hours, missing that day’s data dump and the crew’s dinner. It was no great loss; neither gleaned much interest from him anymore, where once they’d been the highlight of his day.

He shivered; it must have been the cold that woke him. He’d fallen asleep on top of the blankets rather than under, and his short-sleeve shirt was inadequate to keep him warm, even in Valkyrie’s climate controlled confines. The sweater was still in his arms, and Steve hesitated only a moment before sitting up, idly noting the door had been pulled almost shut, to tug it over his head, burrowing his face into the soft folds at the neck just as Bucky had. It was a little tight in the shoulder, and where it had been loose on Bucky, it strained across Steve’s chest as he lay back down, limbs still heavy with sleep, eyes sliding closed as he pulled the sleeves down over his hands, wrapping his arms around himself once more.

Around him the ship was quiet, the living quarters heavily soundproofed, an upgrade devised after the crew of Ares 1 complained bitterly about the noise level in the sleeping quarters, the crew barely able to sleep from the clicks, and whirs, and clunks that were all indicative of Valkyrie running perfectly. The silence was comforting, and Steve was almost lulled back into sleep before he heard the quiet murmur of voices out in the hallway and Steve opened his eyes once again, rolling silently onto his back to stare at the light grey ceiling.

“That was Sam. The pilot’s voice sounded as though he were just outside Bucky’s door and he wasn’t alone.

“Yeah.” That was Natasha, her voice pitched low. “I didn’t want him to be alone when he woke up.” There was a pause, and a sigh. “That and I wanted to make sure if anyone came down here
they’d be quiet.” Steve knew she meant Clint and Thor specifically, the pair having heavy foottfalls and often singing along to whatever music they were listening to.

A soft thud suggested Sam had rested his shoulder against the wall near Nat. “When did he last sleep?” he asked softly.

“Before today? I don’t know. Few days maybe? Clint told me he can hear Steve getting up in the middle of the night.”

Steve hadn’t known about that. He wondered how often the Doctor stayed awake late into the night. For nearly two years, Clint had demonstrated an inhuman capacity for sleep, and was the only man on record to fall asleep in the high-gravity training centrifuge as opposed to passing out. They’d all lost weight, Steve knew, devastated by the loss of Bucky but Steve had largely been blind to the suffering of his crew, drowning in his own.

It had to stop.

“At best he’s getting a couple hours when he does sleep.”

“He needs rest.” Natasha hummed a sound of agreement, barely audible through the door.

“He knows. You going to tell him something that’s going to let him get to sleep? You know a way for him to close his eyes and not see Bucky getting ripped away?” Nat’s tone wasn’t harsh or accusatory. She was genuinely asking. Begging really, her tone speaking of a deep-seated need herself to be able to sleep without seeing Bucky, without being haunted by his loss. By her part in leaving his body behind. Her guilt of still having the man she loved.

There was a long pause.

Steve could imagine Sam’s face as he thought about Nat’s question; he’d show no judgement, no overt emotion, just a gentle warmth as he mulled over what Nat was asking, thinking on how he’d coped with his own horrific loss, what had worked for him to get past what had happened to Riley. Steve knew that he could reach out to ask that very question himself; Sam had made sure Steve knew he was available to talk to when he was ready, to open up, to work on coming to terms with what had happened, but it had never felt like the right time, as though reaching out for help would be an acceptance of Bucky’s death, something he was wasn’t for yet.

“We can’t fix the unfixable,” came the answer. “We can’t make the pain better for him. We can just be there, every day. We have to look after each other.”

“It doesn’t feel like enough.”

“You’re right.” There was a scuffling sound and an exhaled ‘oof’, Sam likely sliding down the wall to sit at his friend’s side, probably holding her to his side. “But it’s all we have.”
Chapter Summary

In the Hab, Bucky has to figure out a way to get rid of the hydrogen without actually wasting the hydrogen he risked his life for.

Chapter Notes

Late again, I know. I've been changing up my medication and that's left me with insomnia and one hell of weird sleep schedule

Log Entry: Sol 38

There was a man who had a farm, and moron was his name-o.

M-O-R-O-N

And Moron was his name-o.

That pretty much sums up the whole fucking situation.

I’m still chillin’ like a villain in R2D2.

Okay, cowering – which I fucking hate, by the way. Running away is not a big Barnes trait - but in the last eighteen hours, once I stopped worrying about shitting myself in terror, I devised a plan while glowering out the windscreen at the Hab.

It’s even a cunning plan as would be put forth by the Professor of Cunning at Cunning University.

Say what you will about Barton but he has some awesome TV on his entertainment drive.

If you’re rolling your eyes and bitching for me to hurry up, congratulations, it's your impatient ass’ fault that everyone else is now going to have to sit through the long explanation.

Don’t blame me, kids, blame the assholes that were trying to rush me.

I’m going to formally introduce you to the Atmospheric Regulator. I’ve kinda talked about what it does without necessarily mentioning it by name. It monitors and regulates – big shock given the name, huh? – the air in the Hab. Its job is to ensure the air in New Brooklyn is safe for inhabitation. Specifically the amounts of the varying elements in it for inhalation. Not enough oxygen? Vent some more in from the tanks on the walls. Too much CO2? The AR filters it out. That’s how the excess O2 that I’ve been introducing to the system via the release of the CO2 is getting into the
That’s all before idiots like Thor fire up their shitty chemistry experiments. No fancy fume cupboard, remember? Fucking oversight, I gotta say. Maintaining a healthy atmosphere is made way more complex by the dozens of chemicals that would have been used in the experiments he had intended to run. Most of those were meant to be pretty innocuous, but some of them were gonna have the potential to be hazardous, especially if the chemicals were allowed to combine in unforeseen ways. Keeping that shit outta the air, is vital to keeping NASA’s investment of sending us up here in the black,

The air in here is so pure and perfect that if I get back to Earth and head home to Brooklyn, I’m gonna drop dead of shock from my first polluted lungful of fumes, second-hand smoke and smog.

I’m looking forward to it.

Fumes and pizza.

And booze.

To enjoy all that, I’ve got to survive, and that’s pretty much the AR’s entire job. Keep me, and anyone else stupid enough to come up to another planet that has no survivable atmosphere, alive, and the AR is fucking awesome at its job.

Back as an AsCan the AR was the first of the machines that’d be in the Hab that I was trained on. Probably because it’s the most complicated of the shit up here and Phillips is a sadistic asshole sometimes, even if it did make sense to get me started on the thing that’d keep me breathing. The AR is half filter, half computer, and complete back-stabbing bastard given half a chance. It might be an overstressed nanny, but Mary Poppins, it ain’t.

It’s also the most important thing up here with me.

The AR doesn’t just keep the air as close to Earth atmosphere as possible with a cocktail of different gasses that stop me from suffocating, it also maintains shit like pressure, and climate control.

So of course I’m a slave to it.

It’s constantly scanning and adjusting the Hab. A shit ton of sensors line the floor, the ribs, the walls…you see where I’m going with this. They’re hard little workers – never tiring in their monitoring the percentages of the gasses in here, as well as also temperature and pressure. Fewer in number, but pretty powerful, are the valves that control airflow, be it to remove or vent gas, as well as circulating the air when it’s perfect. Hot air rises, and it ain’t doing anybody any good at the ceiling, so those valves help move it around a little. That’s not for my benefit alone; I can handle greater fluctuations in temperature than the electronics in here with me. The lights and computers produce a noticeable amount of heat so the AR triggers the cooling system if things get too warm, or it shuts it down when it gets cold.

Ironically enough, the AR itself is the most sensitive to temperature changes. Back in Houston I had to run a thousand drills of it overheating or freezing up – literally – and how to fix that shit ASAP before we sped through CO2 filters.

Or froze.

Or popped.

No pressure then.
Ha de fucking ha ha ha.

With my plan, overheating isn’t going to be a problem.

I’m an enigmatic asshole sometimes.

The AR is also the reason we don’t have to go through the pre-breathe shit the guys up on the Shuttle and ISS had to go through. Back then, because of pressure differentials and other shit, they’d have to pre-breathe pure oxygen for anything up to 2.5 hours before they could carry out an EVA. I know, I know, I said that was bad, but you missed the whole ‘pressure’ part of that story. That’s important because the toxicity is caused by high partial pressure of oxygen, not the amount of oxygen itself. Back then, the suits had a lower pressure than the cabin of their spacecraft, leading to the bends if they didn’t ‘flush’ all the nitrogen out their systems first.

You’ll note that I don’t gotta do that shit, or run around doing jumping jacks before going outside. Ain’t nobody got time for that shit. I just suit up and strut my stuff. I’d be doing nothing all day but standing in an airlock bored shitless as the pressure slowly dropped until I could put on my suit if I had to go through all that.

The AR is really good shit, is what I’m trying to tell you.

And I’m going to fuck with it.

Yay?

Don’t worry, I’m gonna tell you how the AR works.

Here’s the science part. Am I the only one old enough to remember those L’Oreal adverts?

The regulator uses freeze-separation to sort the gasses; when it analyses the air and decides there is too much oxygen it collects some in a tank and then cools it to 90.2 Kelvin (really, really cold. Really, really, cold. That’s about -183C for those that don’t know. See? Cold.). This process also allows the trace gasses in the atmosphere like ammonia – humans exhale some nasty shit, most of which like acetone and methyl alcohol are absorbed by activated charcoal filters – to be condensed and vented out to Mars. That cooling converts the oxygen into a liquid and the liquid oxygen is then stored in one of the two tanks. It works because none of the gasses the AR regulates condense at the same temperature – first ammonia, then oxygen, and then nitrogen doesn’t condense until 77K.

If any of you are sick of the complaining and yelling at me to just use the AR to filter out the hydrogen and stop acting like a fucking baby, go crack a textbook for the first time in your life and get back to me.

I ain’t doing that because it’s not what the AR is designed to do. This might be a surprise to some people, especially those that failed high school chemistry but elements aren’t interchangeable

The AR can regulate most of the gases up here, but it can only monitor hydrogen. The AR can’t cool the gas anywhere near cold enough seeing as how Hydrogen doesn’t condense until 21K.

That’s -252C.

Mars isn’t even that cold. The surface can get up to about 20C during the day depending where you are and if it’s summer – yes Mars has seasons, don’t die of shock – and though it can plummet down to about -72C at night, the average temperature is about -60C. Even if I could separate the hydrogen out and pump it out into an external tank, it’s not cold enough to force the hydrogen to condense.
Fuck, the average surface temperature of Pluto isn’t cold enough to force hydrogen to condense. It’d require a lot more equipment – and a lot more money – to get the hydrogen to condense and there’s no reason for us to want to, so NASA didn’t see the point: under normal circumstances, if there were an unhealthy gaseous build-up for some reason, we’d suit up, vent the Hab’s atmosphere, and hang out in the rovers until New Brooklyn recovered. I can’t vent it because I fucking need it. I nearly died for this shit, and y’all can call me a hoarder, but I’m keeping it.

But while you were failing miserably to think of something useful, I came up with a solution.

And it involves more fire.

If at first you don’t succeed blowing yourself up, try, try, try again.

I am probably the worst arsonist NASA has ever seen. Though I’m also probably the only arsonist astronaut they’ve had to deal with so I’m also the best.

Not that that thought is all that reassuring.

On its own hydrogen is harmless – beyond the suffocating me thing. It only gets all excitable and goes boom in the presence of oxygen. Like there’s a whole tonne of in the Hab. Take away the oxygen and there’s no risk of more fireworks than the fourth of July.

Speaking of July Fourth, uh, Steve? I’m sorry I’m gonna miss your birthday. If anyone gets this, I made you a stupid present. It’s under Natasha’s bunk. Just pretend that it isn’t some shitty thing I made outta spare parts.

Removing oxygen is where the regulator comes into my plan. I can’t use the AR to remove the hydrogen, so I’m going to take away its plaything. The AR’s greatest joy in life is removing oxygen from the atmosphere or pumping some more in. I’m going to make it the happiest little machine in New Brooklyn and let it take all the oxygen out.

Bet that got your attention.

But Bucky, how will you blow yourself up without oxygen?

Ye of little faith. If I proved anything over the last month, it’s that I can do anything I set my mind to.

Eventually, and after a few late starts.

There are four safety interlocks that prevent too much oxygen being removed from the air. But they’ve not come up against me in a determined mood. I’m no Natasha when it comes to computers but I am the fix-it man and I know that machine inside and out. Poor little thing ain’t never seeing me coming.

So the plan.

Trick the Air Regulator into removing all the oxygen. Wearing a spacesuit – I’m not Superman, I do need to breathe – I can do what I need.

Fuck yeah!

I got the idea from the old hydrogen burn ignitors used during Shuttle launches. The devices were mounted beneath the main engines where the Shuttle was on the mobile launch platform and were ignited about ten seconds before launch, give or take and about 5 seconds before the main engines were lit.
Why, you ask?

For the same damn reason I need to use ‘em. The ignitors were used to burn off any hydrogen gas that might have collected under the main engines in a controlled way so shit didn’t go *boom* when the main engines were lit, ’cos you really don’t wanna have a load of hydrogen gas igniting under your engine when it lights. It involves death. Quick, fiery death. Now the ignitors were kinda like sparklers, so all I need is a spark. I don’t need big fancy flame like I did with the hydrazine. Just a fucking spark, just enough to ignite the oxygen I’m going to introduce in small amounts to burn off the hydrogen and voila, no more Hydrogenville. I’ll even get my water out of it too, so that’s a plus.

And a way to figure out the whole ‘controlled’ aspect of the burn off.

I’m gonna use an oxygen tank to spray short bursts of oxygen at the hydrogen and then using my trusty battery ‘n wire sparker sidekick, I’ll burn it off. Rinse, wash, repeat until all the hydrogen goes bye-bye and I won’t die in a fiery explosion.

Awesome right?

Well here’s the catch.

C’mon, you had to know one was coming.

It’ll kill my dirt. My precious, precious hard-won dirt. I get rid of the oxygen and the bacteria will die. All organisms have a preference for their conditions and my bacteria, in all their aerobic glory, are a little attached to having access to oxygen.

Fucking divas.

I remember being told once, and I have no idea how true it is, that the definition of insanity wasn’t talking to yourself - which would already apply to me anyway – but rather it was doing the same thing, the same way and expecting a different result.

So it’s got me coming and going.

Thing: trying to survive.

Same way: stupid, insane, suicidal plan.

Expected result: survival.

Actual result: almost die.

And I’ve done this dance enough times to do it blindfolded and asleep.

But I keep doing it.

What choice do I have?

So my plan isn’t perfect yet. But it’s about ¾ of a plan and it’s more than I had yesterday. I think that’s something. But now I need a break from thinking about my impending doom.

Fuck thinking for a while. There’s gotta be something in here I can do.

Natasha was the last person to use this rover on Sol 5 and was due to go out again on Sol 7 to do some maintenance on the weather stations. Instead she’s looking at them from orbit. But she left her travel kit behind. Now a near lifetime of living with a sister who smacked the shit out of me
whenever I went into her purse – for totally valid and legitimate reasons. Like gum. Or car-keys. Or the name of the fucker that made her cry and tried to hit her – has left me with a slight wariness of going into a woman’s bag but needs must. I’m hungry and Natasha never went anywhere without food. Told you she was smart.

I’m also bored, seeing as I fled the Hab with only a bag of air and the remaining shreds of my dignity, and maybe there’s something to entertain me.

Score!

Two protein bars and a USB stick. Probably got her music on it. So world, wanna know what tunes Romanoff sings along to on a road trip?

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**Log Entry: Sol 38(2)**

Fuck me, Romanoff! There’s like 200 tracks of this shit. You left Mars but you left this behind? What if extra-terrestrials found this? The whole human race would be annihilated just for its existence.

I can’t believe I’m friends with you.

No *Pointer Sisters*, I am *not* so excited, I *can* hide it, but I guess I *already* did lose control.

I did not like it.

**Log Entry: Sol 39**

I need to get the fuck outta the rover, and get this shit dealt with. My subconscious is having a fucking field-day with all this cowering bullshit.

Nightmare city.

The last couple nights have been non-stop tunnel of horror. Most of ’em star a shadowy Grim Reaper. Whole cliché deal – long black robe, billowing hood, all that jazz. It’s standing out on the surface, holding a scythe, and stretching out as far as the eye can see are gravestones.

*My* gravestones, my name etched deep into each one. The date of death on each is different, each a sol apart. Death hedging his fucking bets.

A bleached skull sits atop each one, their jaws cracked open, toothily smiling at me as they watch me try to run from Death, only to fall on my ass and wind right back at the asshole’s feet.

That’s when shit really gets weird.

Every time, each and every time I have the dream – several fucking times a night – the Reaper raises the sythe, but as I try to scrabble backwards or raise my arms or do the fuck *something*, the Reaper *doesn’t* swing it. Instead, it drives it back down into the dirt, the skeletal hand uncurling from around the handle, the blade glinting in the light. From beneath the hood, two spots glowed, the same bright blue as the Tesseract as the hands came up to push that hood back from the fleshless face, the bone
not white, as with the hands, but a deep red, teeth stained crimson.

Then the fucker would reach for me and laugh.

Creepy. As. Fuck.

Freud would probably have had a great time with that, probably say it clearly indicated that I was in love with my ma or some shit. I am not gonna be spending much time decoding what the dreams mean. I am gonna be defusing the Hab-bomb or dying in the attempt, whatever it takes to get rid of the god-damn Death of Mars.

To that end, can I get a round of applause?

I’m serious. Round of applause.

Fine I’ll do it myself.

Just like everything else around here.

Not only did I not destroy Nat’s pen-drive after the fifth track by The Village People came on, but I also completed my plan.

That’s right, my genius finally kicked in. Hum ‘This is Halloween’ to yourself a few times

And for the first time in how long, it does not involve fire.

I’m so proud.

The Earth, or the parts of it not at the equator goes through seasons. Seasons bring extremes of weather. Including extreme cold. Yet shit still grows. Even food kept in the fridge will spoil eventually, whatever the fuck Dum Dum says to the contrary. What would he know, he studied military history, for fucks sake.

Morita did at least get a kick out of studying whatever the fuck was growing on the four month old take-out stuffed in the back behind the unflavoured non-fat goat-milk yogurt one of Dugan’s exes left behind.

For some reason, even the bacteria didn’t want that shit.

Can’t imagine why not.

The purpose of this trip down memory lane is to tell you that bacteria can almost hibernate. Unlike much more complex organisms, like me though the jury is out on you, most simple bacteria can survive low temperatures. Their membranes don’t burst the way human cells do when frozen. Sure, if it’s too cold for too long, or it gets too cold too fast the bacteria will die of shock or at least be so denatured as to be worthless to the whole cycle of life thing I’m reliant on up here – shit still grows the next spring because bacteria deeper in the soil where it’s not so cold survive and breed upwards – but I’m not going to need long. If I reduce the temperature slowly, it’ll alert the little fuckers that it’s hibernation time, and I can get on with splurting oxygen and yelling ‘flame on’.

Don’t look at me like that and pretend that you wouldn’t do the same thing.

Even in that near-hibernation state they’ll need some oxygen but that’s okay. I’ll leave about 1% oxygen in there and that’ll keep ’em alive without blowing me up.

So I lied a little – there’s fire, but no boom.
Just sparks. Iddy-biddy ones that should be no harm to anybody.

Anybody buying that? No?

Didn’t think so.

My precious plants however are going to have to have to be rehoused into the rover for the time being. No oxygen won’t bother them, but no heat will. I’m not even going to regale you with the tale of how I figured out how to make the heat in the rover stay on when there wasn’t a person in it. Long story short, it took an embarrassingly long time to figure out - it did at least relieve some of the boredom and drowned out some of the Greatest Hits of Disco - and I don’t wanna relive the sheer humiliation of that.

This isn’t like that time during finales when I fell asleep in the library and had a nightmare about squids or octopi or some kraken shit and some bastard filmed it and used it in his class project. Freedom of the press, my ass. That film wouldn’t die. I had to relive the humiliation endlessly. For years. Fucker.

Oh fuck.

Fuck me.

Bet that bastard’s sold that footage to some news show.

That fucker makes one dime off me, then I’m gonna get back to Earth by the force of sheer righteous fury alone.

But enough about that.

Back to the plan.

Dig up plants.

Lovingly place in bags.

Place in rover. (Feel nostalgic for the time I moved into dorms at college with all my shit in garbage bags ’cos I forgot to get boxes and Ma refused to get some for me because she was teaching me how to self-reliant. Spend five minutes in rover trying not to fucking cry in my helmet.)

Pull self together.

Leave on heat in rover.

Reduce Hab temperature to 1°C.

Reduce Hab oxygen level to 1%.

Select tank of oxygen for fun and games.

Make sparks.

Burn off hydrogen.

This is all shaping up to be a perfect plan with absolutely no cause for concern and zero chance of my death being the final result.
They say sarcasm is the lowest form of wit.

But at least it’s wit, right?

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**Log Entry: Sol 40**

Well.

Shit.

That didn’t go quite as expected.

No plan is perfect straight out of the gate. I told you that I had a few false starts each time.

Could have gone worse, so I’m improving.

I’m alive still, can we all be thrilled about that? Alive and a little bit crispy. And my ears are ringing. And my head hurts. And my everything hurts. But I’m alive and that’s the take home message of the day.

I am back in the rover, for reasons that are gonna become evident over the course of my tale.

My plan was fool proof, I got my tools, I grew a pair and returned to the Hab. Who knew I’d miss the damn place?

Not me, that’s who! But damn those rovers are crammed as shit when you’re living in them. Can’t imagine having to spend longer than a couple days in there. I’d go insane. Or more insane depending on how you judge my current level of mental stability. I ain’t gonna be insulted if you think it’s skewed a little towards the not-so-sane end of the scale.

For some reason, maybe because I’m starting to lose it, I sort of expected New Brooklyn to have been ransacked, tables overturned, shit everywhere…

Oh wait, there already is shit everywhere.

First thing I did was lower the temperature – it’d take a while to cool to the right temp and I could take that time to gently dig up the plants and give them all a once over, check their health, root systems, all that jazz. With no water production going on, the cooling system had been turned off, the Hab returning to a more temperate climate in my absence.

It’s almost like New Brooklyn is passively-aggressively rubbing my face in the fact that it’s my presence that keeps fucking shit up. I go away and the Hab is perfect.

Not for long, fucker.

I haphazardly replaced the insulation into the gaping hellmouth in the floor to slow the cool down so I could get down to business.

Tell me there ain’t Space Huns out here. Think they’re better or worse than space pirates?

I don’t wanna find out.
Unlike just about everything else in my life, including my mind apparently – thanks for that, Barton - the plants are looking good. Each piece is sprouting well and they all have a good healthy root system developing already.

Grow my 'taters, grow!

Then my luck returned to form.

How the fuck do I get them to the rover?

I needed something pressurised, something that could protect them as I made the trip. The sample containers (boxes, to any non-scientists out there) weren’t gonna cut it.

Wilson’s suit. Each plant was bagged, tucked into the suit and then the helmet put on. Fire up the pressure and heat and Sam’s your uncle. Ask not what you can do for Uncle Sam, but what Uncle Sam can do for you.

The Brotherhood Of The Travelling Plants.

Hauled all that over to the rover – I mean that literally and it was fucking awesome, maybe because I’ve always wanted to drag Sam’s ass just a little - and got them all settled. If anyone was still actually watching the Ares 3 site on the satellites – they’re not because I’ve actually stood outside and waited to see them go overhead, just like you can on Earth and not a one have I seen – it would look exactly like I’d gone all Hal on my fellow crewmembers and was dragging a victim out onto the surface. Once I tucked my precious plants into their temporary home and jimmed – don’t let anyone tell you that all engineering is exact, because half the time it’s a case of fucking around until something works right – the heater on and instant-ish nursery.

I left my potato babies with their new nanny and hauled ass back to freezer-ville.

In the few minutes I’d been away the temperature had dropped to 5°C, which was pretty unpleasant when I shimmied out of my suit so I raided Wilson’s shit again tugging on more and more of his clothes until I resembled the Michelin Man and could barely waddle. Then I pulled on some of Thor’s XXL stuff over the top until I was pretty much spherical.

You reckon I got a promising future as a sumo wrestler?

I don’t.

Too fucking cold to be a sumo wrestler. Too cold to do much of anything other than shiver the fuck outta my skin. Fuckin’ NASA scientists being all efficient. Even in several layers of clothing I was freezing. The fabric of the stuff we were given is thin and designed for a temperate climate-controlled environment that’s kept on the warm side, not an astronaut trying to march with the penguins. I bundled myself up in all the blankets, tucked into my bunk, huddling pathetically.

Which I seem to be doing way too much lately.

Not good for my manly ego.

Even when the temperature reached 1°C I tried staying, even bit down on the edge of one of the blankets I was under to try and stop my teeth shattering from how hard they were chattering.

Which was when I decided to be sensible.

Stripping off only as many layers as strictly necessary to tug on my suit – which was like trying to
haul a damp wetsuit on that was two sizes too small, thanks for asking – I took my freezing ass out to the rover, and luxuriated in the warmth and the three inches of space I had in the cab, my babies having all the fun in the backseat.

Why would I suffer unnecessarily, especially when there’s no dentist around to keep my pearly whites in prime condition? There might be some scientific merit in finding out if my balls actually can climb back up into my body, but I leave that sorta experiment to Barton.

I like my boys right where they are.

I hung out in there for an hour or so, getting feeling back in my toes – and fuck did that hurt -because I wanted to ensure that the bacteria in the soil had gotten the memo and cottoned on to nap time. If I moved too soon, the removal of the O2 in the Hab would kill my dirt and it all woulda been for shit. I had to suffer through and make sure that the bacteria had drifted off to snoozeville before I start burning stuff again.

Mostly I just wanted my fingers to not fall off, but the scientific experiment sounds good too.

But I couldn’t hang around in there all day or I’d never get to risking my neck, so with one last blast of the heater, I did my best Shackleton impression and headed for the south pole.

Of course it actually ended up being another hour after that before I could start burning off the hydrogen. So I was pretty much back to blue by the time I was able to get my Heatwave on.

Why?

Remember my cockiness in my ability to make the Atmosphere Regulator my bitch?

Stuffing humble pie in my mouth.

Choking on it, if I’m honest.

Couldn’t do it. After slithering my way out of my suit, and pulling on all the clothes I’d taken off in order to fit into my suit, and dragging my ass over the AR, blankets and all, I couldn’t override it and couldn’t re-programme it. Goddamn NASA efficiency is out to get me today! It’s starting to feel like a bunch of scientists sat in a room and decided to try and ensure an idiot in space didn’t kill himself.

Come on! What did I do to you guys?!

Can’t a guy attempt to blow himself up without encountering red tape and roadblocks all the live long day?

But have you known me to give up?

No! Because I’m too stupid to get the memo and just die already.

I took a less sophisticated and more improvised approach.

And no, I didn’t hit anything so get that look of your face.

 Fucking tempting thought though.

Might have smacked it a couple times too, but it was with an open palm and you can’t tell me that’s not technologically sound. Nat does it all the time to her shit, and if it’s good enough for her, it’s good enough for me.
Didn’t work though.

Not that I’m bitter or anything, but I bet my scrawny ass it woulda worked for Natasha. The tech up here plays favourite, and this shit loved her.

I couldn’t use finesse to get through to the AR to let me try and kill myself, so I went a little more old-school and low-tech. A man with a plan and duct tape is real hard to stop.

The regulator has a separate set of vents for air sampling as opposed to the main air separation. The air that’s freeze-separated, like when there’s too much O2, goes through one large vent. But there are several small vents that pipe air back from several places within the Hab, the ones that keep the air circulating around, keeping the temperature stable regardless where in New Brooklyn you are.

Nine of them to be exact.

Me and New Brooklyn, we got nine lives.

With my trusty duct tape – seriously this stuff is the greatest thing known to man. I get off this planet and someone’s gonna build a statue to the hero of Ares 3. Except it’s gonna be a statue of duct tape, not of me! – I covered over 8 of the vents and sensors and then turned my attention to the last one. I took another Hefty-sized bag and taped it over the neck of Barton’s spacesuit – thanks buddy – and poked a hole in the other end of the bag, which I fed over the vent and taped in place.

I flooded the bag with pure O2 from the suit tank, and voila the Air Regulator freaked out and went nuts trying to haul all the O2 from the air and stop me from dying.

Holy High School Science Fair Batman!

Doing all that work woulda been hell in a suit, so I was pretty glad I’d decided to leave it off and use an oxygen mask and tank instead, slowly shedding layers of clothing as I worked and warmed up.

‘Warmed up’ is a relative term.

I’m a New Yorker, I’m used to the cold. We go for extremes on the East Coast. I laugh in the face of the cold. If a professor got to class, so the fuck did I. The cold and I are real fucking close. I’d be trekking to class in knee deep snow; falling on my ass running across the road to avoid an out of control snow-plow, just to hit black ice and fall on my ass; shovelling the walk to my craptastic apartment building so Mrs Dernier didn’t fall over when she took Mr Dernier to his appointments; I’d wade through snow and slush and sleet to get my hands on Maude’s ice cream and eat it on the way home in zero degree weather.

What I’m trying to tell you is that me and the cold are friends.

So when I say it was arctic in New Brooklyn, I ain’t being a whiny baby. It was fucking frigid.

Using the O2 tank, in the theme of the day, turned out to be another unexpected challenge; the black mask I’d used before was dependent on being clean shaven or it couldn’t make a good seal on my face.

Slob that I am, I’ve been a little too fuckin’ busy with staying alive to bother too much with personal hygiene. No washing, shitty hair, and no shaving. God, it’s like being an early teen again. Instead of grooming, there’s been making water and dirt and trying to grow shit.

What fucked up priorities I got, huh?
So black mask out, and boring old mask from medical is in, along with a small tank I snagged while I was down there. I did, however, decide to keep on the cool black goggles that go with the mask because, well, cool. If you’re gonna be starting fires in space, you might as well look like a fucking badass while doing it.

I might die doing this. I better look awesome if that happens.

I grabbed the spare suit, left its helmet on the shelf, and dragged it out onto my work table, firing up its internal air sensors; for obvious reasons I couldn’t trust the read-out panels of the Air Regulator and I needed to keep an eye on what was really going on in the atmosphere and how well my little flash burn attempts were going.

Look at me, ma - It’s only taken me thirty four days to take a completely state of the art, one of a kind, multi-million dollar habitat and completely fuck that shit up! Come on, you gotta be impressed. My dorm-room at NYU, the one that had you crossing yourself first time you visited me, has to have been a paragon of cleanliness in comparison.

After my modifications were complete – do you think that invalidates the warranty? – all I could do was sit back and wait. Well, I did jumping jacks and my arm exercises and shit like that to try and keep warm, making optimum use of my time.


There’s no hope for me. Even if I’m rescued, I’ve been irrevocably damaged by my time here. I’m in danger of becoming efficient.

I did jumping jacks until I was too tired to contemplate that horrible thought. If I become efficient and someone on Earth actually discovers I’m alive and I survive until Ares 4, NASA will want me to carry out everyone’s experiments while I wait.

They must never learn of my new abilities. I’d never get any peace and quiet. Plus, after this little arson-fest, I want nothing more to do with chemistry ever.

Soon as the sensors hit 12% O2 – you know, when semi-important shit like impaired coordination and/or concentration and errors of judgement become dangerously imminent - I snapped the rebreather on, tightening the elastic to make a decent seal. The rasp of my stubble made it a little uncomfortable but I just tightened the strap further until I felt it was a good fit.

Tight, uncomfortable and grossly sweaty, but a good fit, and the goggles kept my cool quotient up pretty high despite the ridiculous rebreather.

Maybe I shoulda shaved, but you try taking a fucking blade to your face when you’re wearing three pairs of gloves and your hands are shaking like you’re in some sorta shake-shack shit. Besides, then you’d be spared my bitching and if I gotta live this shit, you gotta put up with it.

As soon as the O2 level hit 1% - which to you and me would mean coma in about 20-30 seconds, convulsions, and ultimately a rapid death - I turned the Air Regulator off so it couldn’t get any wise ideas like realise it’d been had, and pump O2 into the atmosphere like some Martian version of Hal and cause me to be a crispy critter when I spark up.

Oh yeah. I might not have been able to re-programme that fucker but I could turn it off.

Fear my powers, Hal. Fear them.

Stashed around the Hab for emergency use in case the power goes out and the lights crap out on you,
are a buncha LED flashlights. Just like everything else up here, I had no intention of using it for its intended purpose.

If I have to multi-task, so does everything else.

I ripped the LED bulb out to expose the two, now frayed, wires just a short distance away from each other. Now when I hit the switch it sparks.

Y’all thinking I’m some fucking frustrated arsonist, ain’t you?

You can admit it, I won’t blame you or nothin’.

I’ll admit I played with fire once. Just not likely the way you’re thinking. I was little, I dunno maybe five or so - before Becca was born anyway. We had this shitty little electric fire in the living room that you could have on one bar or two to heat the place. I used to sit in front of that thing until my hair singed and I was pink as candy floss, according to my ma.

One day Nana Barnes was visiting and she had her knitting with her to have something to do on the bus. She’d brought me marshmallows to have on my cocoa. Not the little ones on your Swiss Miss, but big fat fluffy ones and I’d heard all about s’mores from the other Cub Scouts and figured I was seriously missing out.

I stole a marshmallow from the bag while Nana and Ma were in the kitchen and I took one of Nana’s knitting needles, stuck the marshmallow on it, and despite being forbidden from doing so – you sensing a theme here in my life? – I turned that fire on and resolutely stuck my marshmallow at it.

Nana used metal knitting needles.

You see where I’m going with that, don’t ya?

The needles got hot – big surprise. So hot that I sorta threw it in my attempt to let go. Right into the electric fire. Across the fire in fact, the needles hitting both bars simultaneously.

Long story short, I shorted out the entire apartment, the stink of burned sugar hung around a while and I couldn’t sit down for a week.

Okay, so maybe Rogers isn’t the only one that can get into trouble, but I was five fer cryin’ out loud!

See, me and fire, we ain’t been pals for a real long time.

Yet here I am, fucking with it again.

Fuck’s sake Barnes, do you ever learn?

Maybe it’s some mystical shit, like I’ve gotta keep going until I get it right.

Fingers crossed this is it.

I jacked a canister of O2 from Wilson’s suit and rigged up a strap so I could carry it on my back like a quiver. Maybe I’m channelling Barton. I attached an air-line to the tank and weaved it through the fingers of my right hand so I could tighten my grip to lessen the flow or relax to get more, kinda like on a hose when you wanna get a concentrated stream of water to make it look like that asshole off Delancy pissed himself after he picked on the asthmatic kid from two floors above me and made him cry.

Not that I did that, Ma.
It ain’t super scientific or that controlled, but it’s the best I can do.

If I’m gonna fuck this up, I’m going out like a boss, so if you think I climbed up on that table with my arms over my head, my improvised flamethrower parts in my hands like a badass, you’re damn fuckin’ right.

And would you believe it, it worked.

It worked.

Sure the fire alarm was going off again but that’s nothin’ new. As I blew the O2 over the flashlight and flipped the switch a beautiful burst of flame belched forth. So I did it again and again. Any claims that I might have made the lightsabre noise as I did it are unfounded rumour.

Yeah, the plant growing mechanical engineer is a geek. Big shock.

Best plan ever.

Why?

Because New Brooklyn is slowly becoming less likely to kill me. Every few minutes I checked the readout on the helmet, watching the levels of hydrogen deplete with each burst of flame, making my home actually liveable.

Plus, I wasn’t dead. And I was making more H20 as I did it.

Of course just as I was starting to maybe celebrate a job well done is when it happened.

There I am, being all punk rock burning off the hydrogen with my improvised flamethrower, the next –

Light.

Sound.

Flying through the air with the greatest of ease, slamming into the wall, before smacking my head into the dirt covered floor as a soft shower of soil and shit fell around me.

Training overrode the immediate impulse to lift my head and see what was doing. Thanks to the risk of explosion during our year long attempt at death, Phillips, and Barton, had drummed into us all what you did and didn’t do when shit went down. Mainly, you stayed still until your body screamed at you about where pain was coming from.

It was a little hard to differentiate where all the ‘fuck you’s each part of my body were saying were coming from, but on the plus side, nowhere seemed to be suspiciously quiet. No pain in an area would have been bad. Spinal damage, kind of bad.

Hitting my head on my precious dirt was way better than if I’d smacked it into the far more solid Hab flooring below. And by ‘way better’ I mean only marginally less fucking painful. Rattled as I was, I was able to at least get a little feedback from my body in regards to my unscheduled death-defying.

Skin – hurt.

Eyes – hurt.

Ears – hurt.
Body – really hurt.

Brain – too big for head.

Which, I won’t deny, was a first.

The human body was not, despite what Wilson and Danvers always tried to argue to the contrary, designed for things like aerodynamics or ability to bounce. The laws of physics had grabbed me by the balls and thrown me, probably singing soprano, across the Hab, and the longer I laid there like a landed fish, the more I felt the effects of my little jaunt. A pretty spectacular light show was flashing before my eyes like the very best July 4\textsuperscript{th} had to offer. Which wasn’t anywhere near as bad as just about every cell in my body began to flip me off, having apparently decided that as their little feedback had gone ignored, that I needed a far more painful demonstration of exactly how badly I’d just fucked up.

I needed to get up. I needed to get the fuck out of New Brooklyn. I needed to figure out what the fuck had just happened, but for all my brain was screaming at me, my body had pretty much taken the wheel and doing anything could just about go fuck itself. I basically wanted to do the manly thing and pass the fuck out.

Instead I lay there, dizzy and nauseated, my ears hurting like fuck and gasping for air and trying to do something more useful than watching the clouds of my breath disappear into nothingness. Gingerly I reached up with an aching hand to feel around my ears, relieved as hell when my fingers didn’t encounter blood or discharge; chances were I’d not ruptured my eardrums.

I also didn’t appear to be leaking grey matter, so that at least was something.

Just like I can’t afford to go blind or have any other severe injury up here, ha fuckin’ ha considering my arm, I can’t risk something like deafness. If I can’t hear the Hab alarms, if I can’t hear my machinery making a weird noise, chances are I’ll die. I got no hearing aids here, no doctor. Ruptured eardrums also come with a chance of infection and I live in Shit-ville so, yeah, not doing serious damage to my ears is a good thing.

The rest of the fucking explosion?

What the fuck was that?

\textit{What. The. Fuck?}

I tried to get to my feet, but my head swam and I fell onto all fours, weak as a fucking kitten, wobbling around before collapsing back onto my left side with a grunt of pain, limbs trembling even though they were no longer trying to bear my weight.

That was not good.

It took what felt like a year to get my hand up to head and gently prod around my skull for any wound to any obvious wounds to my head, the side of my head feeling like I’d gone a few rounds with a meat tenderizer. Or Muhammad Ali.

Even then I couldn’t figure out why I was so dizzy. Sure, I’d been thrown into the wall and floor like a fucking Barnes piñata, but it’s hardly the first time that’s happened. I was a pretty scrappy kid, got in my fair share of fights, and according to my mother someone else’s fair share too on occasion, so getting my head smacked around is not a new sensation. But the level of nausea, the disturbing greyness to my vision that was only worsening with every passing second, that was new.
That was fucking scary and yet my body seemed to not really care so much, like it was too tired to freak the fuck out like my mind was trying to.

Which was when shit got real.

A vaguely human shape was emerging from the hazy grey that was masquerading as my vision, the figure coalescing as it approached. It was dressed in a flight suit but wasn’t wearing a helmet. It wasn’t until the heavy boots stopped inches away from me and the figure dropped to its knees that I could see a face.

And that was when I knew it was all over.

I couldn’t be seeing what I was seeing.
Hit Me Like A Bomb

Chapter Summary

Post-explosion, Bucky has to cope with the repercussions of what happened, both to the Hab and himself.

Steve was crouched in front of me.

His eyes were laser focused on me, ignoring the mess of the Hab.

Jesus he was beautiful.

I’d almost forgotten how beautiful he is.

He’d taken my breath away the first moment I saw him and I don’t think I’ve caught it since. Back on Earth he became the first soldier and then astronaut to make every gossip magazines’ Top 100 Most Beautiful People lists. Three years running. Top ten every damn time.

There’s a reason.

His face is made up of perfect angles from his high cheekbones to his ridiculously strong jaw. Even his stupid broken nose is gorgeous. There are entire blog posts and articles about the colour of his eyes, arguments over their exact shade and how the flecks of brown make them perfectly imperfect. If I were a poet and not a botanist, I could write fucking sonnets about his lower lip, how ludicrously plump it is, and how red it gets when he bites on it while he’s thinking. How it stretches when he smiles.

He wasn’t smiling now.

Now there were wrinkles creasing his brow, a ridge developing between his eyebrows that I wanted to soothe away with the pad of my thumb.

Those lips were moving but any words he might have been saying were lost beneath the blaring of the Hab alarms and pounding in my head.

During training, most of the AsCans had learned ASL to better communicate with Clint when he was tired or had his aids out, signing easier on him when we were somewhere loud or he had a headache or he just forgot to put his aids in – which he did a lot. Then we’d all gotten into their suits and the signing was advantageous in case of radio failure. Except you ever tried signing with three pairs of gloves on while in an EVA suit?

It doesn’t work real well.

So we constructed our own language, a crude love child of Makaton and fuck-knows-what, but it worked for us out on the surface. Clint didn’t do a lot of surface-work, given his work was predominantly poking and prodding us in increasingly personal places, but he showed us the basics, the movements exaggerated yet still graceful. He’d spent a lot of time practicing in his suit, the rest of us learning as we went.
Steve had, of course, been a natural, his movements like a dance.

His hands were flying as they went through the motions of asking me how I was feeling, what happened, was I okay. I tried to look over his shoulder and get an eyeful of the rest of the crew, but all I could see was blackness, unable to pick out a single figure no matter how hard I tried. I tried to focus back on Steve’s face, but it was fuzzy, blurring around the edges.

A sound, like a hiss combined with a metal door slamming closed, echoed improbably through the Hab over the alarms.

I knew that sound.

I’d heard it in countless simulations and during our first few sols on the surface.

It was the closure and seal of the main opening to the MAV.

Whatever it was Steve did to get me out of here, it had to be fast.

I couldn’t be left here again.

“Help me,” I mouthed.

Steve’s frown deepened and his hands flew through the air again, but I couldn’t concentrate on what he was saying.

“I can’t stay here!” I yelled into the noise. “Don’t leave me here again!”

Steve ducked his head closer to mine, trying to hear me. My heart was hammering in my chest, and I wondered if Steve could somehow hear it too, could feel it thump in fear. How could he not? It felt like it was about to burst right out of me.

The Hab began to vibrate.

Sam had fired up the MAV main engines.

“Is this real?” I desperately signed the question, hands shaking, weighing a million pounds each, my arms falling back to my sides the moment the last gesture was complete.

Steve cocked his head to the side, confusion clear, tilting his head so his ear was toward me.

“Are you real?” I asked again, clumsy and pathetic and desperate.

Even as I said it I knew he wasn’t.

I knew the relief that I felt at seeing him was misplaced.

My heart sank.

My arm would barely move as I reached up to check, my vision hazy, my chest feeling as though it was being crushed. I reach out to grab Steve’s collar.

My fingers close on nothing.

Steve wasn’t there.

The MAV wasn’t there.
I couldn’t see the crew because they weren’t there. They hadn’t all come back for me just when I needed them.

They couldn’t come back for me.

Which meant I’d hit my head pretty fucking hard. Maybe I was dying. Maybe this was the start of my version of Heaven.

Steve and me.

My Heaven.

As though my realisation triggered it, he began to fade, Steve opening his mouth on a shout, right arm reaching out for me as he was suddenly pulled backwards into the dark.

‘Bucky! No!’

Then he was gone.

I was alone again.

Had always been alone.

If I’d had the breath, I’d have screamed.

If I’d had the energy I’d have snapped.

Instead, I lay and gasped.

Instead, I waited to die.

The Hab swam, my vision greying out, narrowing to a pinprick, worse than I’d have expected even with the concussion, and if felt like the canvas had ripped or something because it was getting even harder to fucking breathe, my body fighting even as my mind gave up.

Bet you’ve figured it out.

Good for you, jackass.

No fucking oxygen.

Who knew, I could blow myself up in no oxygen. Ma Barnes is gonna be so proud.

Which meant that what had felt like a couple minutes couldn’t have been more than a few seconds.

Or I’d have been dead already.

Why no fucking oxygen?

In my acrobatics, my oxygen mask had been ripped off, leaving me gasping like a landed fish. With the AR off the O2 content of the air was about 1%, and the explosion had likely blown off all the Hydrogen so I was inhaling pure nitrogen. Human beings, like pretty much every animal on the planet, are all about the 20.95% oxygen in the air. Kind of keeps us alive.

I was so dizzy because I was suffocating.

I had a choice.
Lie there and wait for it to happen. Hope the concussion or suffocation or whatever the fuck it was gave me back Steve, just…just until it was over.

Or…

I could be a Barnes, and fucking pull myself together.

I started to choke, air an increasingly rare commodity I would have paid a fucking premium for. Riding the suffocation wave, I had to suppress my body’s response to flip-the-fuck-out, trying to force the natural response down.

Meditate to save a life.

The faster my heart pounded, the worse the oxygen lack became, the hotter the agony in my chest flared.

I needed to slow it all the fuck down and think for a second.

Slow down.

Slow. Down.

Pull it together.

Note to self – suffocating isn’t something I wanna do again. It has shot right to the top of the list of ‘Bad Ways To Go’ even if it did let me see Steve.

If I was gonna live, if I was gonna fight, I was gonna need oxygen.

Fast.

A quick glance at the Hab with what limited vision I still had left clued me into the fact New Brooklyn was now a dumpsite, with all my extremely organised heaps of stuff all over the place; I couldn’t see my oxygen mask under all the rest of the shit.

There was one thing though.

Thor, I forgive you for studying chemistry. I really, really do.

Why?

Because the enormous bastard has an equally enormous suit and its weight meant it didn’t get knocked around the way everything else had. Sure it’d slumped down some in its cubicle against the wall, but that was even better for me; it meant that I didn’t need to get to my feet properly, all I had to do was drag my ass ten feet over to the rack and reach up a couple feet and voila, air.

Ten feet.

One hundred and twenty inches.

Might as well have been 120 miles.

But if y’all learned anything about me over the last month, it’s that I’m real determined to live, hallucinations aside. I shoved my hand down into the dirt and pushed, barely able to lift my upper body to rest against the Hab canvas, legs squirming weakly to push me along. Gravity was as heartless a bitch as ever and did it’s best to keep a hold of me, but between wriggling like a fucking
caterpillar and literally dragging myself along, my legs a hot brand of pain as I struggled, I was able to prop myself up against the wall, shove my head into the top of Thor’s suit and crank on that pure O2.

Thank fuck I keep all the suit tanks full.

Has oxygen ever tasted so sweet?

I inhaled desperately until the Hab stopped spinning me around like a disco ball – or at least span a whole lot fucking less – and came back into focus, and then, holding my breath and not moving away from my lifeline, I surveyed my kingdom.

Remember how I kinda thought that the place would have been ransacked by, I dunno, space pirates or something while I’d been overnighting in the rover?

Now the place looked like it’d been looted. You know in TV shows, especially cop shows, they’ll show an apartment that has been utterly ripped apart, shit everywhere, and the owner is standing in the middle of the living room looking at the mess and the cops ask if anything is missing and the owner kinda looks around for two seconds and goes ‘no, not that I can see?’

How the fuck do they know? Their shit is everywhere! Right now I couldn’t tell you what the fuck had been blown where. I didn’t even recognize half the shit! Y’know how when you move you think you need about a third as many boxes as you actually do, and you totally underestimate the amount of crap you own?

It’s like that on steroids.

Where’d all this shit come from?

I can tell you. It came out of every drawer, off of every counter and cupboard. I’m pretty sure there’s some shit over in the corner that came outta the Medbay which is as impressive as it is horrifying.

But I couldn’t stay attached at the hip to Thor’s suit admiring the wreckage for the rest of my life. I had to get to the Air Regulator and get some O2 flooding back into New Brooklyn. Fuck the hydrogen problem, I gotta breathe. But just as the suit had been what felt like a mile away, the entire diameter of the Hab is between me and the AR.

Making my way across the Hab’s floor was going to be like crossing a minefield riddled with mines and depth-charges. I knew I had to be quick but there was important shit in the Hab that’d gotten thrown all over the place, important – delicate - shit that might have been lurking under other less important shit and if I were to step on it, it's breaky-break time.

And a dead me, potentially.

But of course I also didn’t have the luxury of time to gently cross to the AR. I can hold my breath for 93 seconds while doing extreme physical activity but when those tests were over and Phillips looked as satisfied as he ever did with me, I could inhale and re-oxygenate with no problem. I couldn’t do that up here; if I didn’t get to the AR in time, or there was an issue with it firing up, I’d have to book it back to Resuci-Thor or it was game over.

Forty feet. Doesn’t sound like much does it. Twenty strides maybe. That’s it. Forty feet between me and the control panel. Eighty feet return trip. Gingerly making my way around stuff I can’t break.
So, more speed, less haste, no Bucky in a china-shop.

That I can do, no matter what my family says.

My Nana used to collect those china figurines. Y’know, the ones that are on TV? She had shelves and shelves of those Royal Dalton ones, the ladies in fancy ball gowns. They were her fucking pride and joy, other than Ma. Every Sunday, like clockwork, she’d come home after church and dust them all in an order that was all in her head.

I was somethin’ of a rough kid.

Should come as no surprise.

One Sunday I went home with Nana – she needed some help with something, I don’t even remember what – and she took me through her Sunday routine. I went to pick one of the figures up, apparently her name was Natalie. I thought I’d make Nana laugh by pretending to dance with it – I was a weird kid – and, predictably, I dropped her.

The damage wasn’t too bad, just snapped the edge of her dress, I don’t know what to call it, but to Nana I might as well have thrown her heart into a wall. I learned my lesson good about not ‘just barging in like a bull in a china shop, James!’.

Just call me Quicksilver.

I got this.

While I inhaled lungful after sweet lungful of oxygen, I used my legs to clear the debris around me a little bit, which was when I realised why my leg hurt so much and felt so weak. My right lower leg looked like it’d been fed into a wood-chipper, my pants and delicate flesh torn open on whatever the fuck I hit on my way to the Hab wall.

One good thing, the cold was making the bleeding sluggish, but it was constant, blood seeping into the dirt. Which also meant dirt was getting into the wound.

Because of course.

Of course this had to get harder.

It took me a second to rip the tie-cord out of the hood of what remained of Thor’s sweater. Thank fuck for giant Norse heads. The cord was long enough to crank around my leg and pull until it felt like the calf was going to pop off. It was a pretty shitty tourniquet, but it was effective, the blood flow much slower now.

So I had to deal with that shit too.

So I got a fucked up head, screwed lower leg, no oxygen and a buggered Hab.

I’m a real catch.

But none of it was gonna get any better lying against a wall. I’d done everything I could from my reclined position of leisure. Trying to block out the pain – why the fuck does shit hurt worse when you know about it? – I plotted my course across the minefield, trying to determine the fastest route between me and the AR controls that didn’t involve stepping on too much or jumping over shit.

Assuming I could even jump at all.
By the time my head was as clear as it was going to get considering the ringing in my ears and the definite concussion I was rocking, I had a couple routes planned and couldn’t very well sit by the wall forever, so took as deep a breath as I could manage and made off.

And slumped back down onto the floor when my head swam, my leg buckled and I gagged, spitting bile out onto the floor.

Which added a delightful aroma to the overall ambiance of the Hab.

Which was when New Brooklyn decided to be a complete asshole and make this even harder.

The lights began to flicker. Fast at first, like I was blinking as rapidly as possible.

Then it all became black, the flashing LEDs of the consoles my sole source of light.

Counting in my head I waited for them to come back. For the lights to flood the Hab and let me see.

They had to come back.

They had to.

Or the back-ups should kick in.

Thirteen seconds.

Thirteen fucking seconds before I had to shield my eyes against the painful light.

For five whole seconds before they were gone again.

Fucking perfect.

So now I had vertigo, a fucked leg, no oxygen, and lights that’d go off when I tried to get to the AR.

They don’t run sims for this.

Why the fuck don’t they run sims for this?

Phillips, why didn’t you prep me for this? He’d probably state that being blown up was character building.

Who the fuck did I fucking piss off this fucking much that I’m getting fucked sideways by Mars?

What the fuck did I do that was so bad that this is my karma?

Where they were digging into the dirt, my hands began to shake and I could feel a cold sweat begin to trickle down the channel of my spine and prickle over my upper lip.

Tears threatened to fall.

I couldn’t do this.

Why did I think I could do this?

Fuck me fucking sideways.

Maybe I should just stay slumped against the wall and admit defeat. Maybe this was the thing that got me.
The picture stuck directly over my bed instantly flashed into my mind.

My girls.

My beautiful girls.

My ma raised us nearly alone after looking after my dad all through his illness. She worked three jobs and never complained. She kept two headstrong, stubborn-ass kids in line and got ’em both through college.

Becca, the gal that stood up for what she believed in even when she was all of two feet high, and daily takes on the pain and fear of other people, caring for them through the hardest days of their lives, and somehow still manages to look after everyone around her too.

My girls have never given up a day in their lives.

They’ve struggled and they’ve suffered and they’ve gotten back up.

I gotta get up.

I gotta live to get my ass back to them so I’m not something else they have to survive and get back up from.

If that means having to do an assault course with a bum leg in the dark, so fucking be it.

Game on.

It was a great relief to push away the thoughts, clear my mind of anything but the big console forty feet away, and prepare to endure considerable pain by steadying myself for Marathon Man 2.0. I spent a minute taking deep breaths, flooding my system with as much pure O2 as I could. Lifting my right leg, I planted the foot firmly against the floor, gritting my teeth against the pain.

Don’t fall down.

Don’t.

Fall.

Down.

It was a great relief when the leg held as I pushed myself up, hands shaking as I released the wall. The Hab swan before me, my vision not helped by the irregular flashes of light.

I didn’t gag this time so I took that to be a win.

Now or never.

Talk about ugly running. I used to tease the shit out of my sister and refuse to run with her because she didn’t so much have a stride-style as she did a flail with forward momentum.

I can never tease her again.

When the lights crapped out again, I couldn’t wait for them to come back on. My leg and lungs wouldn’t allow it. Instead, I carried on scrambling over the upturned table I’d been doing my rock-star shit on, weaving around the second table from memory, wincing as something crunched underfoot but there wasn’t the time to find out what it was, stumbled over the suit that’d been ripped
away from the AR vent, tripped as a mound I stood on slid away from me and collapsed onto the control unit, firing it back up with a pound of my fist.

Like pretty much everything else, was NASA fucking about with this?

Fuck no.

That baby fired up in 2 seconds, freaked the fuck out over the oxygen count in the air, blared its low oxygen siren because it ain’t loud enough already, and set about dumping pure O2 into the Hab atmosphere as fast as its valves could handle. It might take time to separate the O2 from everything else, but when it comes to flooding it back into the Hab, that’s where the AR fucking lives.

That takes only seconds to begin.

New Brooklyn is very protective of its occupants, even the ones that are fucking stupid and trying to kill themselves. Someone up here has to have a self-preservation instinct and it clearly ain’t me.

Taking a second to slap randomly at buttons to force the back-up lights on, fighting against the burn in my chest until the red-tone illumination kicked in, I turned and clambered back to Resuci-Thor the same way I’d just come, making whatever I’d stepped on the first time even more broken, and made intimate with the O2 in it, having to drag my face back out the suit in order to throw up more bile into the dirt, idly thanking God I had nothing else in my stomach to purge.

I’m a charming houseguest.

It took less than 3 minutes for the Air Regulator to prove it was worth every penny of its no doubt exorbitant price-tag, and while New Brooklyn became liveable again, I took stock of myself, especially in light of my increasing awareness of a stench of burned plastic and hair on top of the bile.

Yeah, it was as disgusting as you think.

My Michelin Man act had saved my skin. Literally.

Right calf aside.

Thor’s and Wilson’s sweaters that I’d liberated and layered on over what was approximately all my clothing were both largely things of the past, which accounted for some of the stench that lingered around me; seems that when at the heart of what amounts to a hydrogen bomb, even the most flame-retardant clothing is going to suffer. If survive, I should mention to NASA that someone is slacking on the job if I can be in one not-so-teeny explosion and it burns my clothes off. There’s barely enough left for dishrags. It’ll be an extremely strongly worded conversation; it’s not like there’s a Target up here I can hit up for sweaters. The middle layer of my clothing was singed but serviceable and my suit lining was a-okay.

The same could not be said about my eyebrows, which were pretty singed from the feel of it, while the skin of my cheeks and forehead hurt like hell having been flamed.

I reacted to this in an exceedingly considered fashion.

“Fuck!”

I regretted that immediately. My head felt like it was going to explode.

I’ve been stabbed, depressurized, suffocated and blown up all in less than a month.
“Are you fucking kidding me?!”

Who the fuck gets burned in a Hab designed to never have fire?

This fucking idiot.

How can trying to survive up here involve almost dying every few days?

What the fuck happened?

Even with the hydrogen burned off, I wasn’t gonna sit around and try and figure out the answer to that question in New Brooklyn; the explosion shouldn’t have happened, and that meant there was a variable I wasn’t aware of. That makes the Hab dangerous for me to hang out in while I wait for inspiration to strike. Despite just how uncomfortable it was going to be, I was going to have to head back out to R2D2, lick my wounds – and dress ‘em - in the cramped confines and rest up.

Before I could leave though, there was a little housekeeping to be done. While the suit had been ripped from the AR vent, the other eight vents were still covered over and now the AR was up and running, they had to come off or it was going to fuck with its readouts, and when I came back in the morning, I was gonna need to know everything the AR could tell me about the atmosphere.

Like that the temperature had risen, without me fucking around with anything, from 1*C to 15*C in a heartbeat.

As much as every part of me hurt like fuck, I meandered down to the Medbay. It was gonna be dangerous to hang out in the Hab too long without knowing what the hell happened, or why, but I needed to release the tourniquet sooner rather than later, irrigate the wound and get to the stapling.

Plus, drugs were down there. Many drugs.

I live in a house of shit, so I took my time debriding and then washing out the wound – after I found myself a new oxygen tank that I belted to my side, just in case – cycling through saline and potable water until the wound ran completely clear. Then it was back to feeling nauseated from the anti-biotics I injected and then it was staple time.

After three I decided to stop trying to save morphine and numbed the area.


Partway through the clean up, the generator lights went out, but in the time it took me to curse my ass off, and put down the ridiculous syringe I was using, the main lights came back on and stayed on for the whole time I was moving around so what the fuck their problem had been was a mystery that could wait.

Besides, it’s way easier to check for blood when not under red lights.

I ain’t about to look in the mouth of a gift horse.

I bandaged and wrapped the wound and packed a bag for the rover. I didn’t wanna be living there any longer than necessary, but it’s me; I could be having to change the bandages more than once out there. A couple instant ice packs, a few days’ worth of anti-biotics, some pure aloe gel for the burns on my face, and a few other items completed the bug-out bag which I left by the entranceway.

I x-rayed my skull, and couldn’t see any fractures or any other bad shit, but what the fuck do I know about that? I do know I had to set the alarms in the rover to wake me up every couple hours. I’d
have to invent some stupid list to recite back over to check for memory loss or something.

What the fuck happens if I don’t wake up, I don’t know.

Oh, wait. I do.

Die probably.

I love my life.

What a new and different uplifting thought for today.

Once I was sure I wasn’t gonna bleed into my suit, because that’s disgusting, I dumped the bug-out bag, which I’d topped up with some more food, into the airlock and then moseyed around New Brooklyn for a while to straighten up the worst of the damage, righting tables and stools, finding out what I’d stood on – set of pipettes that I’d probably never have used anyway – because as bad as I felt just then, after a night in the rover, I was going to be stiff as hell when I got back into the Hab.

Found the thing that I cut my leg open on.

It having one jagged edge covered in my blood was a fucking big clue.

I don’t know what the fuck it is, apart from part of Thor’s equipment, but I’m gonna enjoy turning it into a Frisbee across the surface.

It also gave me enough time to run some very thorough diagnostics on my suits. All bar Thor’s had been thrown around the Hab, and I need them to survive up here. If I’ve got no working suit, I’m done. I will die here, soon. No suit means no getting the plants back from the rover. It means no clearing the solar panels. It’d be a race between starvation and a Hab blackout as to what would kill me first.

The helmets, miraculously enough, had come through unscathed, stored as they were in small cubbies, protected from the brunt of the blast. Without a viable faceplate, I’d be fucked.

When those diagnostics came back clear, bar a fault on Natasha’s suit which doesn’t concern me really as I’m only using it for parts and I can fix it at a later time, I grabbed a pressurised container, dumped a laptop, my bug-out bag, swapped out a curry pack for the meatloaf I’d packed earlier – I just survived an attempt to create the J.B. Barnes crater, I deserve a full fucking meal that’s actually got taste and you can’t stop me -and Sam’s USB stick – if it wasn’t for some of the redeeming stuff on Nat’s I’d have fucking buried it out on the surface somewhere - into it, got suited and booted and booked it off to the rover.

It’s my best friend up here.

Always wanted a dog.

The plants and I are bedding down together tonight. Don’t look at me like that, that was an epic joke and you know it. They’re not even my strangest bed companion.

You’re gonna have to get me drunk to hear that story though.

And no asking Rogers, that’s cheating.

By the time I made it to the rover and hauled my ass inside the cab – the body of the rover was taken up by my plants so I was going to have to sleep sitting up in zero comfort - I was exhausted, barely
finding the energy to wriggle out of my suit and chew my food. Good thing it’s pretty damn mushy
to start with or I’d have survived the explosion just to choke on curry.

The shame would have been deep and real.

Before I fell asleep, however, I did find the energy to sing to my enraptured audience of greenery.
I kill it at karaoke.

*Kill. It.*

**Log Entry: Sol 41**

I wish I was dead.

Okay, so maybe that’s morbid, particularly after blowing myself up, and y’know actually kind of
wanting to stay alive and all, but you’ve gotta allow a fella some gallows humour when he’s in pain,
fucked off, and once again sleeping in a rover.

Does that make New Brooklyn my wife? Is sleeping in the rover the Mars equivalent of being cast
out onto the couch? Because a couch would be preferable to this shit.

After dragging my sorry ass over to R2D2 and bedding down with my precious, precious potatoes, I
finally passed out somewhere around 1am, exhausted by the pounding in my head, the agony from
the rest of my body, the way the world was spinning – let’s hear it for concussion – and complete
abject terror as to what the fuck had just happened in the one place on this planet I can survive for
any length of time.

Thanks to my new friend the rover alarm, I awoke a couple hours later, face smooshed into the
shoulder of my own suit, drool cooling disgustingly on my cheek. Well, it ain’t like I gotta be pretty
for anyone anymore. I rolled onto my back and stared at the ceiling while I tried to remember the
five words I’d designated as my memory test.

Initially I’d thought of going with who the President was, which had led me down the rabbit hole of
wondering if President Ellis had won the election for a second term, which had got me thinking
about how unfair it was that astronauts couldn’t cast their ballot via data dump which had led to
wondering who to complain about that to and I’d fallen asleep before I’d remembered that I hadn’t
set any words.

An hour and a half later the alarm blared again and I went through the whole thing again, freaking
the fuck out as I tried to remember words I couldn’t remember setting because I never had. By the
time I figured that out, I could see another sol dawning and groaned.

Another sol up here trying to figure out how to survive my latest fuck-up. Seeing as how NASA
didn’t exactly plan for overnighters in the rovers, there’s no way to cover the windscreen or the little
window that allowed those in the cabin to see those in the cab, as well as be blinded by the light that
should, if the world were fucking fair, remain in the cab. It wouldn’t take more than a few minutes
for the rover to be flooded with inconvenient light and I wasn’t going to be able to get back to sleep.

Rolling my head back on the sorry excuse for a pillow that the bug-out bag made – I *gotta* prep the
rover more thoroughly for New Brooklyn and I to have more fights - I winced up at the roof; I was
right yesterday, I do hurt like all holy fuck. There isn’t a part of me that doesn’t ache, burn, or send blinding sharp fire up into my brain as repeated punishment for being a fuck up. My head is pounding like I’m shoving a size 10 brain into a size 2 skull, and the pressure behind my eyeballs feels like the fucking things were going to pop out. My neck has the biggest crick in it from sleeping twisted up on the floor, head lolling to the side against the airlock for most of my sleeping apparently. I can’t nod or turn to the right, except I keep forgetting that every minute, and so turn my head to look for something and want to die.

I have a truly spectacular bruise running all along my right side making breathing a bitch. Added to that joy every time I inhale, my right hip feels like it’s trying to burn its way out of my body and if I had a chainsaw right now… the temptation to cut my own leg off is fucking real.

You know you’re fucked when the arm that got shish-kabobed is actually the least of your concerns for once.

After grumbling to myself, and clumsily hauling my suit on again – and wasn’t that fun in the cramped confines with limbs that didn’t seem to realise they’re attached to the same body – I abandoned everything in the rover because who knew how long I might be living in there until New Brooklyn isn’t a death trap, and dragged my pathetic ass over to the Hab seeking out analgesics and figure out the kaboom thing. Mostly the analgesics but easily 10% was about the Bucky bomb. Maybe even 12%. I’m a multi-tasker, that’s me.

I don’t know why I’d been expecting anything other than the complete chaos I’d left it in the night before, but still my stupid ass was shocked at just how devastated the Hab was when I stepped through the airlock. I was clumsier in my suit than I had been yesterday, but I kept it on until I read through the readouts on the AR and then cross-compared them to what the computer on my suit was telling me; I wasn’t going to remove my helmet until I was sure the air wasn’t going to kill me.

Ignoring the shit-fest that was the main body of the Hab, I carefully made my way to the med bay and busted out the portable X-ray machine to check on my ribs, seeing as how I didn’t scan them last night. If they’d hurt this much I would have. Then again, I couldn’t feel anything that wasn’t my head or my leg. I won’t lie, I’m pretty amateurish with most of the equipment in the med bay, but we did all get crash courses on the important tech and I’d gotten some practice when my arm got fucked. I squinted at the images and I’m pretty sure I didn’t break anything blowing myself up, but then I know fuck all about reading a rad.

Once I was finished running tests on me, and had resisted taking more than half a vicodin and a palmful of Tylenol for the pain in my everything, and had slapped enough aloe on my face to count as a face mask, I headed back to the main room, ready for war.

But first, because I am at heart a procrastinator, the breakfast of champions. I washed down my analgesics with an-oh-so moreish and delicious cup of rehydrated onion soup. If I don’t gotta look pretty for anyone, I don’t care if my breath stinks either.

How did I spend Post-Explosion: Day One?

Boring, boring, boring diagnostics.

What’s more fun that a boring diagnostic? Tens of them.

I know how to have a good time. It is party central up in New Brooklyn.

I ran tests on everything else that didn’t have formal diagnostics. Three fuckin’ times. Something in New Brooklyn tried to kill me and I kinda hold a grudge.
Why forgive and forget when you can remember and retaliate?

Something in here that is vital to my continued existence, tried to kill me.

Yeah, the irony is a hoot.

So…now to discover just what was responsible for the assassination attempt, in the Hab with the oxygen-induced explosion.

Admit it, you’d have had more fun playing Clue with that sorta murder.

Critical tests came first. Hab canvas integrity. Without that, it doesn’t matter if everything else was fine, I’d be f*cked. I was pretty confident that was fine; I’d spent the night snoozing away in Rover 2 and the Hab hadn’t deflated like a bouncy castle so I was expecting the perfect pressure numbers that popped up on screen.

All hail small victories.

Onto our next contestant on ‘This Is Your Death, Bucky Barnes’: the Oxygenator.

It’s possible that it caused the explosion because it was leaking, or the readouts were malfunctioning, or, and far worse, was damaged during it and if I can’t fix it, I’m a dead man.

That good ole refrain. It never gets boring, does it? Ah, sarcasm my friend, never leave me.

Pretty sure the Oxygenator was pissed at me for accusing it, it was definitely grumpy.

Shut up. It’s been just me and these machines for over a month. I know ‘em inside and out. Literally. I know when they’re being obstinate and telling me to go fuck myself in their creaks and groans, and the way it was sluggishly responding to every test I put it through was a definite ‘screw you, asshole’. But it’ll forgive me. It’s working beautifully, especially now that I’ve cleaned off all the tape adhesive and shit in a form of penance.

Air Regulator, you need to come with me. You ain’t in trouble, just need to ask you a few questions. Now, just where were you at the time of the attempted murder?

Not guilty.

I interrogated it repeatedly, took it apart, examined every part I could get my hands on, ran tests on every part I couldn’t, put it back together again without being left with three screws and a bundle of wires when I was finished, threatened it with a phonebook just to be sure, and finally determined that the AR was not the culprit.

Water Regulator, battery array, heating array, lighting system – not guilty and I didn’t find a cause for why the fuck they decided to go all Morse code last night - N2 and O2 storage tanks, all three airlocks – and why do we have three airlocks on a Hab the size of an apartment? To reduce stress and strain on the mechanisms that get put under a fuck-ton of pressure - and a whole buncha shit that you don’t care about and that frankly I didn’t either until I had to run tests on it.

Fine, fine, fine, fine, fucking fine. Not to sound ungrateful or nothin’, seriously don’t take this the wrong way but while I’m fuckin’ ecstatic everything that keeps me alive is cool, I’m no closer to knowing why the fuck this place lit up like a firework.

Which meant I was no less at risk some sixteen hours after getting in the damn door than I was when I lay on the floor hallucinating.
And until I do figure it out I can’t move back in and I can’t make more water. My plants can only last so long in the rover before it gets too cramped and dragging them around is going to have been a shock and I run the risk of them dying the longer this goes on.

Let me guess, who didn’t know plants went into shock.

Idiots.

Think about it. Think about a plant you bought in a store. Not a nursery, but like a grocery store. Probably hadn’t been watered since it was being misted in the truck it travelled around the country in. It then sat for days, weeks maybe, in a climate controlled dry grocery store under hot lights. It’s gone from the ground where it was being given everything it wanted by a nursery or farm, and now it’s in different soil, different water – if it’s getting any – different air quality and temperature.

You’d not be thrilled about it.

Then you buy it, maybe give it a little water.

But it’s still wilted and yellow and doesn’t get better.

Sound familiar.

Welcome to transplant shock.

You can recover a plant from shock, but I’d be happier getting them back into the ground ASAP. I wanted them back in today – which was a pipedream - or tomorrow – a borderline pipedream.

There are still two things to check. One not for evidence of trying to kill me, but for evidence of life.

My precious dirt. The explosion didn’t kill me, but I mighta been the end of the road for my bacteria. In which case, my plants being in shock is going to be completely academic anyway.

Like a good little scientist I took a number of samples from all around my farm and prepped a slideshow.

Actually, first I had to scour through the Hab to find enough of the fucking things to actually use, seeing as how they’d exploded like shrapnel from their neat little box on the counter to literally all the fuck over the place. Four of them were sticking out of the dirt like arrows that’d missed their target just waiting to be stepped on.

How did I know this, you ask?

Because I fucking stepped on them.

Maybe I am a bull in a china shop.

It took another ten minutes of pulling shit around to find enough to consider a decent sample, and then I got down to business.

Fucking A! My life-saving bacteria is apparently as hard to kill as me. Look at ‘em, all hearty and hale.

The last thing to check required very little input from me. I fired up Natasha’s laptop, trawled through her files and diagnostics, attached the laptop into the main Hab control unit and, after checking her enormous folder of notes four times, ran every diagnostic and trouble-shooter I could find. If the equipment was coming up fine on the readouts, then it was possible that the computer
itself was malfunctioning, telling me that all my equipment was hunky-dory when it was actually murderous.

I really, really hoped that the computer wasn’t the problem. I have no fucking idea how to fix that. I’m not Natasha and I can’t exactly call IT services. I don’t even have Google and most of the shit in Natasha’s binder might as well be in Russian for all I understand it.

Do you think this would be a turn it off and turn it back on again situation?

Yes?

No?

Once I double-clicked, it was time to leave the tests running and play clean up while I ruminated on the problem. My multi-tasking skills are legend.

If you think I bitched when I moved all the dirt in here, it ain’t nothing on the whining that occurred while trying to get the Hab back into something resembling liveable while my every joint refused to operate properly. Thankfully, the explosion happened after I’d made enough water to hydrate the soil, making the dirt heavy, so it wasn’t quite everywhere – unlike everything else - but the explosion had still been large enough to shift enough of it all over the place, and NASA had totally overlooked the need for a fucking broom up here.

The list of shit that NASA bean-counters gotta start giving astronauts is getting longer and longer.

I started with stacking as much of the big stuff over against one wall, which hurt enough to finally get me to give in to the whole Vicodin I’d tried not to take earlier. Along with another fistful of Tylenol. On the opposite side of New Brooklyn, I made two heaps of definitely-broken and maybe-broken shit for later investigation.

The dirt was more important right then. I needed to get it ready to bring my plants back the second that I was sure I wasn’t going to be blowing shit up again.

Using a spare canvas rod, and duct taping a handful of flag markers together and fixing them horizontally on one end of the rod, and gluing some pipe insulator along the bottom edge of the markers, I then MacGyvered a broom.

Sort of.

It was not that efficient, and looked like something you’d buy off a late-night infomercial because you were drunk, stoned or so exhausted it seemed like an excellent product, but it was better than nothing at sweeping dirt back towards where I wanted it, and a hell of a lot better than if I’d been using my hands to try and shove it where it should be. Buoyed up on my broom success, once I was done with bullying my farm back into its designated area, I duct taped one of my trowels to the other end of the rod and used it to create little furrows to aid replantation without needing to bend and thus make white spots appear in my vision from hurting my ribs, hip, back...everything really.

Once was enough, thankyousoverymuch.

I’m such a good farmer I need a bit of wheat to chew on.

Or toast. Toast would be better if it’s gotta be wheat.

I’m making it sound super cool and swift, but this shit took me about six hours to complete. And that was just the fucking dirt, and I was fucking exhausted and sweating like a pig, and I was pretty sure I
was bleeding through the bandages on my leg but I knew, I just freaking knew that if I stopped, if I hauled a stool outta the maybe-broken pile, sat my ass on the gurney in the Medbay, or even worse, crawled into my bunk, I’d never get up again.

So instead of doing something sensible or doctor approved, like resting, I played Tetris getting shit back into the cupboards that it’d gotten blasted out of, returning New Brooklyn to pristine – ha ha ha – condition, before hefting the tables and stools back to where they should have been without a thought to Feng Shui.

See ma? I can pick up after myself.

Don’t look at me like that. If I was already bleeding through the bandages, the damage was done. Might as well get this shit over and done with and re-do it all once, rather than twice.

See why I’m not a doctor?

But shit had to get put away.

All the while the wheels in my head were turning.

A dangerous pastime, I know.

I have a theory. About halfway through Martha Stewart-ing New Brooklyn, the main computers completed the barrage of tests I’d set off and passed each with flying colours, so it wasn’t the computers and it wasn’t the equipment, so based off the fact that everything that could have caused the problem didn’t, my hypothesis is the only plausible explanation I can think of.

You got a better one, your answers on a postcard please.

According to all the computer readouts, at the time of the explosion the atmospheric pressure in the Hab rose by almost 50% and the temperature increased to 15°C in less than a second. That pressure dropped back to normal almost immediately.

That’s part of the Air Regulator’s job so it all sounds great, right? Except the AR wasn’t on.

Unlike the pressure, the temperature didn’t drop off, so any increase in pressure from the heat expansion should have remained. But it didn’t. Raising the temperature and keeping the same number of atoms within the Hab should have kept the pressure at the increased value of 1.4, only decreasing slowly as the temperature did.

But it didn’t.

A little more thinking provided the answer.

I know this is my fault but you know what? I dislike chemistry even more now.

It being sloppy I can kinda forgive, nobody is perfect, but trying to kill me?

It’s on bitch.

The hydrogen – the only thing around to burn – had combined with oxygen to go big badaboom and made water. Water is a thousand times more dense than gas – try squeezing a full water bottle and you’ll see just how dense it is. The heat added to the pressure and the creation of water dropped the pressure.
Where the fuck did that oxygen come from though?

The Air Regulator was off and the atmosphere held only 1%. My approach with my flamethrower was working and I’d only been letting out minute amounts of oxygen so as to complete controlled burns not explosions.

See where it came from already?

You know the most galling thing about it? The absolute worst thing?

It was my fault. Entirely and completely my fault. As in literally me. Not just my mind, but my actual body. I caused it. I wonder if Mars wants to beat up my ego any further. I think there’s some part of it that ain’t bruised yet.

The explosion was entirely my own fault, and so fucking preventable that it would be hilarious if it wasn’t terrifying.

I guess you’re gonna wanna know why.

Apparently I really embraced the Rogers Approach to life. I grabbed that ball and ran with it, and planted that fucker right under the posts before adding an element of idiot as a celebratory dance.

I didn’t wear a spacesuit.

Instead I went au naturel in layers of clothing, because all I worried about was the cold. That choice of comfort over safety almost killed me.

How?

The medical tank of oxygen I used feeds you pure O2 that it vents into the face mask and when you breathe in, it then pulls in some of the surrounding air through one-way valves on the upper side of the mask, so you don’t die of O2 toxicity by breathing pure O2 for a prolonged period. The mask is placed over your nose and mouth and fixed with the elastic strap round the back of your head, just like an oxygen mask used in any hospital or doctor’s office.

Now you’re all bettin’ that it didn’t have an airtight seal. And I’d be collected my winning upon my return.

It wasn’t leaking O2.

I was.

When I breathed in, the mask suckered onto my face, good and tight and made a near perfect seal. But then I’d exhale. Think back to High School Biology. We don’t use up all the oxygen that we inhale, if we did mouth to mouth resuscitation wouldn’t work, and we don’t use anywhere near as much oxygen from the air we breathe as you’d think. The air on Earth is comprised of about 21% oxygen. When we inhale and our lungs do the whole gaseous exchange business, the air we exhale is only about 4-5% less comprised of oxygen than when we inhaled. So the air we exhale has somewhere around 16% oxygen.

When I breathed out, that pressure on the mask was released and my exhalation was forced through valves on the underside of the mask and out into the Hab so that I could breathe in again. Every single breath was upping the amount of O2 in the Hab, specifically around me. While the main body of the Hab was a mere 1% O2 and thus relatively safe, the air around me, and thus around my flamethrower was steadily rising
I’m that much of a fucking dumbass that I didn’t factor my own breath into my equations. In my
defence, who the fuck thinks about their breathing? Breathing just happens. It’s not something that
you think about when you’re busy cogitating on how to make water out of air.

Ma always told me I had to watch out for the details.

‘Got to watch the details, James, the Devil’s in them’.

Too fucking right, Ma.

All this time, Mars has been trying to kill me and what comes closest to managing it was me. For
fucks sake Barnes, get your shit together.

I just didn’t think of it. I didn’t think of it, and almost got myself killed. As big as that explosion was,
it was nothing like what it’d have been without having burned off most of the hydrogen first. If I
hadn’t done that, forget rupturing my eardrums, it’d have perforated the Hab and that woulda been
that.

On the plus side, the Water Reclaimer did its thing and that missing 60L of water is now present and
accounted for. When I got bored of making a list of all the shit that’s gotta get fixed at some point, I
entertained myself by filling a couple of my prepared tubs with about 40 litres of the good ole wet
stuff – if I blow shit up again at least those boxes won’t be going anywhere - and used the rest to
drizzle onto the dirt, preparing it to move the plants back tomorrow. The dirt sucked up that water
like a sponge. I’m gonna let it settle overnight and in the morning check it again and see if it needs a
little more water before I bring the plants back. They’ll be fine in Rover 2 overnight with my tending
to their every whim and keeping the rover climate as close to the way New Brooklyn was when I
dug them up, but getting them replanted is my first job tomorrow morning.

First thing I’m doing once this place is back together? Shaving.

That black mask and I are about to become inseparable.

Until then, I’m gonna have my dinner and kick back with some total shit TV from Clint’s drive.

What the fuck is DogCops?

Log Entry: Sol 42

I slept in a little late today. I’ve spent days in Rover 2 with two nights of seriously disturbed sleep
and what I’m now sure is a permanent headache, and it did nothing for my back or any other part of
me, because delayed onset muscle soreness is just fantastic. You know how if you work out really
hard and you’re sore the next day but you can get by, and then you can barely walk the day after
that? That’s DOMS. It sucks. Between dragging the plants out to the rover, blowing myself up,
hauling shit around in the Hab, and sleeping in the rover for two nights, it should come as no surprise
that my muscles are pissed.

Which of course made today fucking delightful.

But who am I to bow to the needs of my body?

Instead, after a quick trip to New Brooklyn (okay, a sorta waddley-hop because my thighs hurt so
much that walking is not my friend) and a check of the soil to ensure it was good to go, I returned to the rover and returned the potato plants to Wilson’s suit, pressurised that baby up and begin what felt like an hour of the most pain I have ever been in. I could only manage to drag the thing about ten steps at a time before I became too winded to continue and had to stop. As tempting as it was to just collapse onto my ass and lie down, maybe indulging in the desire to make dirt angels on the surface of Mars – don’t make that face at me, you know you’d do it - I had to stay on my feet or I’d never be able to get up.

But hey, even one step was still one step closer to the Hab.

I didn’t dare turn around to see how far away from the Hab I was, and it was about five minutes into my little excursion that it occurred to me that I was a fucking moron.

Because the last few weeks wasn’t quite enough to hammer that knowledge home.

I could have saved myself so much fucking agony by doing what?

Driving the fucking rover to the Hab.

Fuck me sideways.

The idea, however, of turning around and heading back to the rover was just more than I could take – R2D2 was all of a mere thirty yards away at that point but it still felt like a mile. I lied to myself that I was a little closer to the Hab than the rover and continued on my turtle-esque way.

By the time I got to the airlock – panting, sweating, swearing and wanting to die – my left arm was hanging useless at my side, my lower back was on fire, and pain was shooting up my spine straight into my skull, with the promise of more pain where that came from if I didn’t quit moving, like the worst kind of IOU. With a couple hours about to be spent bending over to replant the potatoes, I was going to be reduced to tears.

As soon as I’d gotten the suit over the Hab threshold and shut the airlock, I headed on down to the med bay and had to hold myself back from popping three Vicodin. You may wonder why the hell I haven’t just moved the bottle into the main area, but I have the feeling they’d be too tempting if I did. I can’t afford to pop ’em like aspirin. Med stuff is in the med bay.

I don’t really understand it either, but it’s what I want.

And I’m the King, remember?

Know what else I want?

A little Bengay. Maybe some Tiger Balm.

Do we have that?

Nope.

Made do with a little topical muscle pain relief gel that smelled disgusting, and didn’t work all that well.

Bitchy Barnes is in the Hab.

I collapsed gratefully onto a stool once I’d managed to rid myself of my suit, having cried manly tears of frustration when I couldn’t manage to move my arms the way I needed to get the fucker off
and started to perhaps panic a little as it bunched and constrained my shoulders and arms and I fucking hate having my arms restrained and I started to just pull like hell which made everything else hurt even more and that made me cry more and it was a vicious circle of hell until finally the sleeve gave and I was free.

It was while I was sitting there, useless, staring vaguely at the Hab ceiling, trying desperately to summon enough energy to get up and replant my beloved potatoes, that I zeroed in on one of the four cameras up there.

And had a plan.

Who knows when I’m going to do something fucking stupid again? Let’s face it, it’s going to happen. I might have to high-tail it to R2D2 and hang out overnight over there – which reminds me, I need to pack some sorta overnight gear into that thing – and then who’ll watch over my potatoes?

Nanny-cam.

All I’ve got to do, when I can face the idea of clambering up a stepladder, is reposition the cameras and I’ll have a birds-eye view of my life-giving tubers. I don’t know what I think might happen to them in my absence but I’m not going to give intergalactic rabbits a foothold to get at my food.

Okay, I’ll have to figure out how to transmit the video out to the rover, but even if I can’t do that, I could still monitor them without having to get out of bed.

Potato porn streamed live to my laptop.

Speaking of potatoes, once I finally slithered off my stool and collapsed into a small, pathetic heap on the floor, and crawled over to the suit, my plants were looking fine after their field-trip, and they were back in the ground not a moment too soon – they’re starting to sprout. If it had been even a few more days, it would have been way worse to start dragging them around the surface of Mars, in a suit or not, so once they were in the ground again, I really hoped I didn’t want to uproot them again. Seems that I can blow shit up at every turn but still rule at botany. But it does highlight my other issue.

Water.

After almost blowing myself up, twice, I’d still only made 130L of water, meaning I still have the other 470L to make. I’m gonna have to go through the whole process again and again, every ten hours.

Minus the explosions.

God fucking willing.

It’ll take less than half an hour to break down the hydrazine and burn off most of the hydrogen. I also know about the hydrogen I’ll miss as I go, so I can burn that off in batches too.

I’m gonna be stuck with 9 hours downtime between tanks.

Hellooooo DogCops and figuring out how to transmit the video signal from the Hab to the rover.
They Call Me Mr Scrooge

Chapter Summary

Bucky spends another day alone, one that he'd normally spend surrounded by friends and family.

He worries how they're coping.

Chapter Notes

See the end of the chapter for notes

Log Entry: Sol 44

Merry-fucking-Christmas.

I bust out Clint’s Sharpie collection and drew a tree on the Hab canvas. Fuck off, it’s my home now and if the landlord doesn’t want me decorating, they can come get me.

I’m celebrating the holiday by sleeping in, spending several hours making water, changing the bandages on my leg which is healing pretty well but ain’t ever gonna look good in shorts again, and enjoying the rest of the day sprawled over my bunk reading – because I kinda dislike It’s A Wonderful Life and it reminds me of Becca and Ma too much ’cos they try and make me watch it every year so even though it’s on Rogers’ drive I just can’t go near it - Thor’s Pratchett collection. It’s the only stuff on his drive in English.

The man’s got a thing about magic I swear. I can’t blame him, I have a thing for Nanny Ogg.

Anything to take my mind off how my family is doing today.

Merry Christmas, Ma and Becca.

I love you.

Before I left I got a freaking boatload of gifts for my girls, wrapping them so neatly and stuffing bag after bag full of shit from shower gels I know they love to jewellery. Becca’s never had real diamond earrings, and I scrimped and saved all through training to get her some beautiful ones.

Did you know that geologists reckon gold and platinum isn’t from Earth?

It’s true.

The Late Heavy Bombardment was a few billion years ago, wave after wave after wave of meteorites raining down on Earth, bringing gold, platinum, and a handful of other precious elements. Steve was telling me about it one day, how in its infancy Earth was covered in volcanoes and molten rock, and the iron sank through the mantle to the core. If the gold had been around then, it would have mixed with it, sunk without a trace and it shouldn’t be so abundant on the surface.

Yet there it is. You can fucking pick it up off the ground.
So it's from space.

So I got my sister diamonds, the hardest substance around, set in gold, an element from space.

I thought it was fitting.

Ma, my beautiful ma, one of her gift bags holds a professionally bound photo album, every picture I could find, every scrap of photographic evidence of the Hubbards’ and Barnes’ for five generations. There are pictures in there that she’s never seen, didn’t even know about, articles about how her father fought in WW2, the medals he was awarded. I know Grandpa never spoke of his service, not one word, put his uniform and medals away and moved forward, never acknowledging what he’d seen, what he’d done.

For Ma to have those articles, for her to have those official commendations, to know her father was the bravest of men…maybe it’ll give her hope. His blood is in my veins, and stubborn runs in the family.

She might need that today.

The presents are in Morita’s spare room. He and Dugan always crash the Barnes Christmases. Dugan’s got no family of his own anymore and Morita’s is too far away for him to afford to travel to every year. Ma adopts anyone and everyone that crosses her threshold. If you’re in her house, you’re in her family. From the moment those idiots said ‘hi’ to me in the dorm our freshman year, they were her little ducklings, to be chided and adored in equal measures.

In fact, if my calculations are correct – and who the fuck am I kidding, I checked on the computer – those fellas should be walking in through the front door right about now. I entrusted the gift bags to Morita because God knows what Dugan would manage to do with them above and far beyond losing them, and if Jim knows what’s good for him, he won’t have let Dugan so much as carry one.

He probably didn’t get a choice in letting Dum-Dum carry his own gift – as big a bottle of bourbon as I could afford – which’ll keep the idiot appeased and delighted.

When it comes to big roast dinners, Ma doesn’t comprehend the concept of portion control, and Dum-Dum couldn’t love her more for it. While I sit here, breaking out a burrito for this most auspicious of occasions, they’re gonna be sitting down to a turkey, seven kinds of vegetables, not including the four types of potatoes and sweet potatoes, and at least four kinds of homemade pie.

Think they’re getting the best of that deal.

The crew…

Garner sent a box up with one of the supply missions with gifts from our friends and family, Rogers squirreling it away God-knows-where away from Barton’s prying eyes and sticky fingers. Garner probably thought it’d be some great psychological boost or something because it’d remind us of home and the people we were travelling to get back to.

It’s probably working.

But I don’t want my crew to be unpacking that box, crowding together around the table in the Rec Room and have to see the couple present abandoned in the bottom of the box, like Santa didn’t get the memo not to visit.

Not to be an arrogant shit, but that’s gotta cast a pall.
It ain’t even gonna be the bottom of the box; Garner packed it alphabetically, Wilson’s presents on the bottom, then Romanoff, Rogers, Odinson, Barton, Barnes. When they open that box, the first set of presents they come to are all gonna be labelled to me. That’s the first thing they’re gonna see.

Barton’s been talking about putting up some wire – we didn’t have string on Valkyrie what with the whole flammable thing – or maybe the shit he’d sew us up with if someone hurt themselves – let’s face it, it’d be me – in the Rec Room since about a week after we set off from atmo, hang up all the cards and shit from the box. Cards are light so NASA included a small selection from the public, set up a little PO Box where people could send us Christmas cards – in fucking May – to be included so we’d have a ‘normal’ holiday. Rogers wanted to open ’em like an Advent calendar, a new handful of cards every day of December. The Christmas Day uplink would have included a shit-ton of images of the rest of the cards. A pack of interns have been photographing and transcribing the things since the moment they started to flood the box. I was the media liaison, and every time I went to a new school or company or event, I’d come back with freaking bags of the cards. All the little kids I saw were super excited at the thought their card might get sent into space and travel to Mars.

Their teachers probably got nothing out of ‘em the rest of the day after I left. Back on Valkyrie I’d have been recording little thank you messages with the crew for each card.

Guess they’re gonna have to be doing that without me.

Same as with the Thanksgiving feast, Garner sent up the same sort of stuff for a holiday meal, real potatoes, even some real beans, to go with our freeze-dried turkey – I guarantee you, nobody would be able to tell the difference seeing as how turkey is dry as fuck anyway, and Ma I’m sorry but that does include you’re awesome turkey too, no matter how much butter you shove into it and God bless you for trying – and I know how much they were all looking forward to it.

Guess I fucked that up too.

Merry fucking Christmas.

Chapter End Notes

I worked out that Sol 44 would be Christmas from how a Sol is 40 minutes longer than a day. Hopefully I’m right.
James ‘Rhodey’ Rhodes returned to his office in the late afternoon, dropping his briefcase on the deliberately uncomfortable chair he kept for visitors in an attempt to keep long conversations to a minimum. He toed off his dress shoes, kicking them out of the way, and had his jacket unbuttoned before he’d reached his desk, showing his uniform the respect it deserved by draping it over the back of his chair before collapsing into it, exhausted and distracted as he tugged his tie open and off, popping the top two buttons of his shirt, breathing deeply for what felt like the first time that day.

As he stared out over the view his office afforded him of Johnson Space Center, behind him his computer chimed its announcement of a new email, following it up a less than a minute later with another, as though his colleagues having sensed his return and descending on him with questions and reports and meaningless shit he just didn’t have the energy for right then. It could ding its little head off for all he cared. It could wait. It could all wait.

Today had been shitty enough already.

Today had been James Barnes’ memorial service at the Astronaut Memorial at Kennedy, as well as the unveiling of his name on the Space Mirror. The morning had dawned bright and sunny, the glaring sunshine glinting off the enormous dark granite memorial’s reflective surface just as had been intended, making it appear as though the names that Barnes’ joined were projected up into the sky in which they’d died.

Barnes’ was the first name to be added in fifteen years.

It wasn’t an accomplishment any astronaut wanted to achieve.

For the occasion, Rhodey had slipped back into his dress uniform. He’d not been in for over a decade but two of his men up there on Valkyrie were, albeit in the Reserves in Rogers’ case. They couldn’t stand up for Barnes today, but Rhodey knew that were they at Kennedy they’d have been in uniform, and so for them, Rhodey had dug it out, ribbons and all, finding himself standing straighter the moment he slid the uniform on.

For the first time, Tony hadn’t poked fun at him when he’d caught sight of him in ‘all prettied up’ like he normally did on the infrequent occasions that he’d caught sight of Rhodey in uniform. Instead, when everyone from JSC and JPL had met on the tarmac that morning before shuttling their way onto the A318-Elite that Tony had chartered to get them down to Florida, the other director had been withdrawn and uncommunicative. That alone was a warning sign as to how hard the Ares 3 Mission Director was taking the loss of one of his men, a man that he felt responsible for, that he felt
he had let down. Unlike so many in NASA, Tony wasn’t former military, wasn’t used to losing someone, not someone for whom he was accountable, and he’d never learned how to cope with the overwhelming grief and guilt. If it wasn’t for Pepper, Rhodey suspected Tony would have reverted to his earlier years and hit rock bottom hard enough to crash through it.

Tony had spent the entire journey with his head resting on the window, eyes unseeing of the clouds beneath them, hand rubbing almost compulsively over the tattoo on his chest that he’d gotten as a result of the newly-minted crew’s wild night out. He seemed completely unaware of how Pepper was staring at him with worry in her eyes, the Media Director looking periodically over at Rhodey, who was unable to do anything more than shrug helplessly, her own grief evidenced in the tightness of her eyes, the clench of her jaw. She hadn’t spent as much time with the AsCan group as a whole as many on the plane, though she’d socialized with them all over their training. However, once the charismatic Barnes had been selected as the Media Liaison for the crew, Pepper and her team had worked closely with him, training him as to how to surf the waves of the world’s press, managing the crew’s plethora of social media accounts, collaborating on various video journals for the Ares website, as well as visiting local schools. Just like everyone else that came into contact with the brash, but gentle man, Pepper had been charmed, even if she’d instantly set up a variety of tools to try and rid him of his tendency towards cursing while doing his work. The hypnotherapy hadn’t really done much to curb Barnes’ mouth, but he had started to hum periodically rather than swear, which Pepper had taken as a win.

Every moment of the two and half hour flight had been spent in uncomfortable near-silence, Nick Fury and Colonel Phillips had sat up front, both men projecting an intimidating aura of ‘fuck you and fuck the horse you rode in on’ that had kept even the stewards away. Maria Hill had braved the seat behind the pair, eyes glued to the tablet in her hand; just because most of the department heads were heading to Florida didn’t mean NASA suddenly ran itself. There were still five astronauts on their way home, a state of being actually more dangerous than when they’d been planet-side, as well as countless other projects that needed to be overseen. They had been left in the hands of Deputy Directors and various underlings, but in the end everything had to be routed through Nick and the other Directors.

Bruce Banner and two members of his team were huddled along a couch, Bruce staring straight ahead as the others read through reports, though Rhodey knew that at least one of them was simply looking for something to hold onto as they never once turned a page or made a note.

Beside them, the AsCans that had trained with the Ares 3 crew sat together along with Foster’s assistant Darcy, the young woman holding tight to Jane’s hand, murmuring quietly to her boss. The usually bright and effusive young woman looked as concerned for her friend as Pepper did for Tony. Jane Foster wasn’t the most demonstrative of women, certainly not one of the most outwardly emotional, but that didn’t mean she didn’t feel deeply, and her heart was breaking for the loss of her friend, for the pain her husband and the rest of the crew were enduring. She was pale and drawn, her usual energy absent as she nodded along with Darcy’s words, though Rhodey knew she was likely only hearing half of them.

Carol Danvers and Helen Cho had sat next to each other on the other side of the aisle. Danvers had been in her own dress uniform, sitting stiffly in her seat, cover in her lap and jaw tight. Like Foster, Danvers sometimes came across as cold or unfeeling when she was anything but and her perfectly ironed uniform and the shine glinting off of each of the medals that she proudly wore across her chest were testament to that; she honoured her lost friend by making sure she sent him off in style. After the Control Room had gotten word of Barnes’ death, and Rhodey had stumbled back to his office hours later, Carol had been waiting with a bottle of Jack in one hand and two glasses in the other. He hadn’t bothered asking her how she’d found out, instead gesturing for her to splash a little more into his glass.
Not the perfect coping mechanism perhaps, for either of them, but it’d gotten them through the night.

Cho had spent the flight flipping through a report, comparing it with the notes she had, losing herself in her work as she so often did when she was overwhelmed. She and Barnes hadn’t been especially close, but they’d been friends none the less, brother-in-arms of a kind from their time as AsCans despite the difference in their personalities. The quiet and shy doctor had been brought out of her shell by the botanist’s teasing, and Rhodey knew she held Barnes in high regard, as he had her.

Sat on his own, chair rotated around to face the back of the plane was Rumlow. If he’d been asked, Rhodey would have expressed surprise at Brock bothering to show at all, seeing as how he and Barnes had loathed each other from first sight, and had both turned up to training mysteriously bloodied and bruised on more than one occasion, but in the end, Rhodey had chalked it up to PR and Rumlow having been ordered to attend to demonstrate NASA unified spirit in the face of the tragedy.

Or some other bullshit which meant the rest of them had to put up with him for the day.

The day had all been downhill from there.

The shrine that had popped up at the main gate at JSC, an overwhelming assemblage of flowers and poems, balloons and stuffed toys, had long since faded from its former glory, though new flowers were still added by tourists as they passed through the gates. In contrast, the entrance to the JFK Space Center was almost entirely hidden behind memorials to Barnes, candles guttering in the breeze, flowers wilting in the sun. Scores of people flanked the path up towards the memorial, the area barricaded off for the service.

But even with all that, Rhodey hadn’t been ready for the sight of the Space Mirror.

Volunteers had wound garlands around the rail that encased the memorial, the metal completely obscured by colourful flowers and blooms, as well as having lain an enormous wreath at the foot, five smaller ones spread out around it, one for each other member of Ares 3.

Bunting had been twined around the back of the rows of the chairs set out for the mourners, each little pennant bearing a note of mourning or solace for the Barnes family. Over the course of the last few weeks, there had been books at the main gates of JSC, KSC and JPL for visitors to leave words of condolence, the notes painstakingly copied out each night by volunteers and shipped down to Kennedy for the memorial, after which they’d be collected up again and presented to the Barnes family. Written in beautiful calligraphy, the messages ranged from the simple ‘I’m so sorry for your loss’ to the more personal, one of the pennants before Rhodey spelling out the grief of another mother who’d lost her own son in a plane crash, the woman offering to keep the Barnes family in her prayers.

Rhodey’s hands had itched with the need to rip them from the chairs, to throw them into the wind before Winifred would have to see them. He didn’t know whose idea it had been, but in that moment he wanted to throttle them.

Two immense pictures flanked the Mirror; one had been taken just days after the Ares 3 crew had been announced, Barnes in his flight suit for his official picture, helmet under one arm and a broad smile on his face. That was the Barnes that the public knew, the handsome, easy-going, charming, faintly nerdy guy. It was the image that had adorned the front cover of newspapers across the globe for days, been displayed on immense screens at public memorials and splashed across every news program in the world.

The other was an image that further scarred Rhodey’s already battered heart; it depicted not Barnes
but Bucky. It showed the man as his friends knew him, as who he was to his family. In the picture Bucky was standing beside his sister, both sporting cheesy grins, their cheeks flushed with sunburn. Bucky had his arm around Becca's slim shoulders, tugging her into a loose headlock, the picture taken just as she managed to throw up a hand behind his head to give him bunny ears, their faces creased with laughter, eyes bright. Bucky was so joyous and carefree, love for his family obvious in his eyes. That was Bucky as a son, as a protective older brother, as the young man who’d looked after his family when his father had died, keeping them whole, keeping them together when everything else felt like it was falling apart.

The world had lost an incredible mind and courageous spirit, but the two women sat just rows in front of Rhodey, the two women clinging to each other's hands, had lost their only family. The dress Becca wore had done nothing to hide the weight she’d lost since Rhodey had last seen her so many months ago when the families of the crew had said their last goodbyes via video transmission shortly before Valkyrie had left orbit. Her face had lost none of its beauty but was now gaunt, the little softness that had plumped her cheeks long gone while the dark bruises beneath her eyes were new. Her dazzling smile, so on display in the photograph was a thing of the past, her mouth a thin line, her jaw working against tears he knew she’d been refusing to shed, and Rhodey knew without a shadow of a doubt that if he’d been brave enough to look her in the eye, the light that had been there would have been long since snuffed out, replaced by flint. In contrast, at her side Winifred Barnes’ tears had fallen freely, her petite body shaking as she’d sobbed, a string of rosary beads dangling from her white-knuckled grasp. Becca had held her mother’s other hand between both of her own, her head bowed against the side of her mother’s, whispering into her ear periodically throughout the service. As he’d taken in the too-thin appearance of Winifred, her wan appearance, Rhodey had been reminded of the words of Barbara Cernan, the then-wife of Gene Cernan, the last man to walk upon the surface of the moon.

“You think it’s hard going to the moon? Try being left at home.”

While Barnes, and every other astronaut to ever leave the Earth, had been living out his life-long dream, practically beside himself with excitement, his family was left behind, spending every waking moment terrified of what could go wrong, of never seeing their loved one again, that sat with fists clenched and breath held as the engines fired beneath the shuttle, and they never truly breathed out until that same shuttle touched down again in Houston.

For Barnes’ family that relief, that joy, that feeling of having their loved one’s return, that exhale would never come. For the families of every astronaut whose name graced the Mirror, the moment would never come. That their loved one had died in the pursuit of their dream was little comfort.

Rhodey knew the agony of loss and would have given anything, anything at all to take their pain away, to make it better, to somehow at least bring Barnes’ body home for them to bury.

But he couldn't.

Nobody could.

Feeling helpless wasn’t Rhodey’s strong suit. Something he could fight, something he could hit, something he could do, that he could all cope with, but watching good people suffer and knowing he could do nothing left him feeling impotent and torn at the seams. Ironic, perhaps, that death should make a soldier uncomfortable. Seeing Winifred so broken only served to remind him of his own mother. Both women were small in stature but commanding in presence, forces of nature which had served them well while raising stubborn, spirited children. Just as the light had gone out of his mother’s eyes, so too was it now absent in Winifred. Sat before the podium she had seemed so small, so fragile in a way that had nothing to do with the weight she’d lost, weight she’d barely had
to lose. Her grief and exhaustion were almost physical presences, suffocating her.

When Jeanette had died, there’d been things for Rhodey to do; call family members, ring florists, organise the wake, hire caterers...the list had been unending and he’d been grateful for every task he could take from his mother’s shoulders, but here there was nothing he could do.

The President had given a speech recorded from the Oval Office, honouring Barnes’ bravery and his sacrifice for the advancement of scientific knowledge, how noble a man he’d been, as well as praising Commander Rogers for his quick thinking and actions that led to the survival of the rest of the crew. Once he’d started to quote William James, Rhodey had had to rest a restraining hand on Tony's knee, his friend practically vibrating apart from the need to get away, to be somewhere, anywhere, else. Stark was normally able to hide his feelings so effortlessly behind layers and layers of sarcasm and biting humour, but the moment the transmission had come through from Valkyrie that Barnes had been lost, like he was a set of house-keys someone had mislaid, Tony’s armour had been stripped off, leaving him an exposed nerve and the memorial was just another reminder of what he considered to be his failure to keep those in his care safe.

Rhodey had tried to let the words flow over him, closing his eyes to better concentrate on the warmth of the sun and the fragrance of the flowers, taking comfort in his own memories of the man they were celebrating. The young man that would fight the world to protect the ones he loved. The scientist that would throw popcorn at a TV screen whenever someone in his favoured sci-fi B-movies spouted nonsensical, shitty geekspeak. The astronaut who could take all the abuse Phillips could dish out, and still have a joke at the ready. The friend that was always up for a beer and baseball.

A short video had followed, a collection of Barnes’ appearances in recordings taken by trainers, engineers, and the AsCans themselves, Barnes smiling broadly at the camera whenever he’d noticed it, and looking studious and professional when he didn’t. Snippets of training scenarios were intercut with less serious moments, the candidates heading out for a NYE party, dressed up for Halloween, Barnes looking nauseated after his first jet flight, various birthday celebrations.

Barnes’ last birthday.

Rhodey had been there when Rogers had surprised Bucky as he came out of his isolation training, the rest of the AsCans bringing up the rear with streamers and cake, Romanoff bearing a camera to film Bucky’s reaction, all of them still dressed in the soft sweats and robes Garner had provided once they’d been released from their own captivity. It had been the moment that had sealed it for Rhodey, confirmed for him just how gone on each other the two idiots were. Surrounded by their friends and colleagues, Steve and Bucky had eyes only for each other, Steve smiling so broadly it was a surprise his face hadn’t split in half as he gazed at Bucky as though he’d hung the damned moon while Barnes couldn’t help but laugh at the crew’s terrible rendition of ‘Happy Birthday’.

Rhodey had wanted to punch whomever had chosen to include that three second snippet in the throat. He’d felt like a voyeur, as though he were intruding on what should have been a private moment for both men, a moment that would now never come. Rhodey couldn’t imagine what Rogers was going through. It had become the worst kept secret in Mission Control – Rogers and Barnes were in love.

It was that simple and that tragic.

Rhodey knew they’d never acted on it, even though it was clear they both wanted to. They were professionals. Rogers was an army man; he knew the importance of a mission coming first. He’d sacrificed all his life to get where he was, he wasn’t going to throw it all away now, even for what he so clearly wanted. But they all also knew that the moment Wilson brought them home, that boy was
gonna grab Barnes by the lapels and bend him backwards like the war had just ended.

Tennyson would tell him it was better to have loved and lost. Rhodey wondered if Steve would think that were true, because as far as he could tell, Tennyson was a fucking moron who’d had no idea what he was talking about. From what Rhodey could tell from the communications between Houston and Valkyrie, what was left of Rogers after love was a mere shell.

Rogers, and the other remaining members of Ares 3, had given short eulogies of their own sent via video packets from Valkyrie the day before, the footage projected up onto the Mirror itself in a display that was both touching and gruesome in a way Rhodey couldn’t explain, Barnes’ name glinting through the images, the day’s bright sunshine keeping it illuminated. Even on the Mirror Barnes was alone, no other member of his crew or mission having died with him, and so his name was set apart, alone even in the commemoration of his death.

Rogers had looked like shit. Maybe nobody at the ceremony that hadn’t worked with the crew for the better part of two years could tell, but everyone from Mission Control could hear how the man’s heart had ripped apart up there. His voice never broke and no tears fell, and yet right there on the Mirror was a broken man. A man that had had to leave one of those in his care behind. A man who had had to leave the man he loved behind and lost a part of himself in the process.

As a former Air Force man himself, it went against every instinct Rhodey had. To leave a man behind, to not retrieve his body…He’d had to during his own career, God knew that, but every single time he’d have crawled on his hands and knees across hot coals if it had meant bringing a buddy home to his family.

The others had been likewise subdued. Natasha’s voice had been clipped, her eyes cold, as though she judged everyone at the service for her friend’s death, but not nearly as much as she judged herself. Barton, always the troublemaker and comedian of the group - even more so than Barnes which was borderline impossible - who kept them all a cohesive unit, had been quiet, his eulogy short, Wilson’s hand gentle on his shoulder. The pilot had spoken of his respect for his friend, of his love of how the other man brought them together, how he’d laughed when he’d first seen Barnes stumbling out of the G-force simulator.

Sam hadn’t been laughing then.

The situation must have been the worst kind of nightmare for Wilson; only weeks before entering AsCan training, Sam had seen his best friend killed as the pair had raced to save a unit of soldiers in a classified mission in the back of beyond. Living through that once had almost killed him, but being forced to do it again, Rhodey couldn’t imagine how Sam was feeling.

Thor Odinson had given a grave, near epic, speech of how the Valkyries would take Barnes on to his final resting place in Valhalla, an end that his friend deserved for having died in battle against a God of War. Doctor Jane Foster, sitting a row in front of Rhodey had made an abortive little gesture towards the Mirror, fingers clenching as though she could take her husband in her arms and soothe him.

The whole ordeal had clearly taken its toll on each of them, and more than once during the service Rhodey found himself grateful of Sam being up there – the young man was cool and collected, level-headed and respectful, with a calming effect on everyone in his orbit. After the devastating loss of Riley, Wilson knew better than most that trite phrases and cheerleading wasn’t always as helpful as people liked to think, and had learned any number of coping methods and techniques to help himself navigate through his grief and anger. He was someone Rhodey was deeply honoured to call his friend and the other members of Ares 3 were lucky to have him. They all had another ten months of
travel before reaching Earth, they all needed each other.

“When the Ares Program became a reality, many asked, ‘why go to Mars?’” Fury had said when he’d taken the podium to give a speech as the Director of NASA. “I think President Kennedy answered that best when asked why go to the Moon back when mankind’s exploration of our universe was in its infancy.

‘Space is there, and we’re going to climb it. Not because it is easy, but because it is hard. Because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win.’

Fury had grasped the podium then, but not nearly as hard as Rhodey had had to grab a hold of Tony’s wrist. He’d wanted to let his friend walk out, wanted to join him, but they couldn’t leave. To slip unnoticed out of the back of a church would have been one thing, but here? As uncomfortable, as nauseating as this was for them to sit through, it was nothing like what the Barnes women were going through and if they could endure, so should they.

“Bucky Barnes was the embodiment of that belief. He was the very best of our skills and energies, he accepted the challenge gladly.” Rhodey had felt his hands curl into tighter fists, his nails no doubt digging into Tony’s wrist, not that his friend had given any indication of pain. “In the decades since man first left our Earth we have all grown used to the idea of space travel. It has become almost pedestrian, and yet we have all been reminded of how dangerous it truly is, how brave the men and women who answer the call are.”

The speech had continued, an air of damage control infecting it the longer it went on. The only thing that lessened Rhodey’s desire to punch Nick in the face was the Director’s expression as he read the words that Rhodey suspected he fought against saying. Fury had been fond of Barnes, though he hid it as well as he did everything else, and the generic speech Fury had given, likely at the behest of the legal department, didn’t demonstrate that at all.

Rhodey himself however didn’t get to his feet. He’d been asked, many times, but he’d said no each time. Increasingly firmly. What was there to say? A good man was dead. A man he called his friend, was dead. A man whose closest friends would forever blame themselves and the guilt would eat them alive. A man whose family would never really know what had happened and his body would lie up on Mars for the rest of time, forever a young man. Nice words from the Director of Mars Missions wasn’t going to change any of that. They wouldn’t make it any easier for Winifred Barnes to breathe, wasn’t going to help Becca sleep at night, wasn’t going to fix their broken hearts.

None of it, none of the flowers or the readings or the Presidential appearance or the tree planted back in Houston in the Grove was going to do a damned bit of good.

Rhodey knew that from personal experience.

Finally it had been done, but with no casket to follow, those attending instead had milled before the Mirror, Becca and Winifred swallowed up by the crowd. Fury had immediately made his way to their side, the crush of people offering condolence parting like the Red Sea before him. Between his foreboding expression and body language, the Director had kept many of the people at bay, protecting Winifred and Becca from having to endure a stream of strangers as they made their way to their car along with the two NASA representatives that had accompanied them. Behind them the chairs were already being collected, the bunting being taken down and carefully folded in anticipation of being presented to Winifred privately at the hotel. There wasn’t, by request of Winifred, going to be a formal wake, and so the mourners that weren’t put off by Fury’s imposing presence, had taken their opportunity to give their condolences.
He’d wanted to avoid the Barnes family after the ceremony, knowing it made him a coward and hating himself for it, unwilling to intrude on their grief, to be the source of more pain. He was, after all, the man who’d okayed Rogers’ request to bring Barnes into the programme, the man who’d selected him for the mission. The man who’d sent their loved one to another planet.

Rhodey hadn’t noticed Carol’s approach until her hand had slipped into his. In her heels she was almost of a height with him, the sight extraordinarily disorientating when Rhodey was so used to her wearing sneakers, or barefoot as she moved silently around his apartment.

“Hey. You doing okay?” She hadn’t looked directly at him, instead her gaze had been firmly on the Mirror, her hand squeezing his.

“I don’t know. You?”

“I don’t know,” she’d parroted back. Carol had jerked her chin towards the remains of the Barnes family, towards where Tony was standing on the fringe of the crowd.

“You going to talk to them?”

“I’m not sure.” ‘Not sure I want to.’

“It’ll be hard. Maybe the hardest thing you’ll ever do. But I think you have to.”

“Are you under the impression that you’re being helpful?”

“It’s not meant to be easy, Rhodey. But it’s not for you. It’s for them. For Barnes.” Her voice had softened as she’d turned to him, expression gentle as she’d smiled at him, sad and small.

“He’d want you to.”

Rhodey hadn’t had anything to say to that, and they’d stood in silence for several minutes, watching as people started to drift away from Becca and Winifred, watching as Jane and Darcy had stepped up, Darcy enveloping Becca in a tight hug, turning her mouth towards Becca’s ear to whisper who knew what as she held the young woman close.

The buzz of a vibrating silenced phone cut through the silence, causing Carol to slip her hand from his, Rhodey missing her touch immediately. Carol had grimaced when she caught sight of the caller ID, and apologized, having to take the call.

“I gotta-”

“I’ll see you soon.”

She’d left, walking towards the mini-fleet of cars that’d return them to the airstrip, her tone sharp as she answered whomever had decided that calling her when she was at a memorial was appropriate.

When Rhodey had looked back over, only a few people still lingered before the Mirror, Darcy kissing Winifred’s cheek before retreating towards where Carol, Rumlow, Cho, and Bruce were waiting by the car, her arm around Jane’s shoulders. Stepping up to take their place had been Tony, Pepper’s hand low on his back in support. Rhodey had tried to give them their privacy, but had glanced over at them every now and then, keeping an eye on Tony’s expression and body language. His best friend had appeared wrecked, his shoulders high and tight, jaw clenched, posture ramrod perfect. When he’d walked away, shrugging off Pepper’s touch, he’d held out a hand to make her back off, stalking off in the opposite direction to the cars, needing time to process alone.
It was in times like those that Rhodey wished he’d known Howard Stark, had had the opportunity to
punch him in the mouth for not helping teach his child how to process emotions, how to ask for - and
accept - help, rather than mould him into an emotionless automaton. Tony had no idea how to let
himself be weak, how to let others see when he was struggling, how to accept help, how to even sort
through what he was feeling.

Howard Stark had been many things to many people. What he’d failed to be was a father to his son.

Rhodey would be better. Rhodey wouldn’t take the easy way out.

Rhodey had wanted so desperately to avoid them, but Carol had been right, it wasn’t about him, and
so he’d made his way towards the car, intercepting the little group as they walked towards it. Becca
had glanced away from where Fury was guiding Winifred into the back of the vehicle and caught
sight of him, ducking down to whisper to her mother for a moment before Pepper had stepped up to
take Winifred’s hand.

The few times he’d met Becca previously, Rhodey had been struck by her poise, the young woman
appearing in complete control at all times, even when more than a little hungover after a night out
with the AsCans. He recognised the Barnes determination and strength in her, but the woman before
him was no longer the Becca he’d known. The woman who stood before him now was broken, torn
apart and bleeding and he’d had a hand in her destruction.

Rhodey was all too aware that there were two ways to break someone. Over his years of military
service, Rhodey had been acquainted with both. The first was from the outside, physical torture that
chipped away at the person, tearing into their skin, breaking their bones, burning their flesh, until
their throats tore apart from their screams and their minds shattered. The other was far more
insidious, attacking the mind directly, poking and prodding against the mental walls until a weakness
was found, slithering in through the chink and exploiting the weakness until the mind broke.

Rhodey, if offered a preference, would rather take the physical pain over the emotional. The haunted
look in Becca’s eyes was the reason why. Just as he’d opened his mouth to say something, anything,
hopefully not something inane like asking how she was doing, Becca had spoken first.

“You’re smart, right? Smart enough to put my brother on Mars, so maybe you can answer something
for me,” she asked hollowly. “There’s so many people at the apartment all the time, and I’ve been
working from home to look after Ma, and they’re all so loud and talk so much to fill the silence, and
they mean well, of course they do, and they’re helping Ma, I think, but I can’t think. I can’t get five
minutes to myself to think and they fill all the empty space and I can’t even ask the one question that
I can’t stop thinking about.”

“I’ll do my best,” Rhodey had offered, hoping against hope it was something he actually could
answer, knowing in his bones that it wouldn’t be.

Becca had turned to look over her shoulder, zeroing in on Bucky’s name engraved so deeply into the
Mirror. “I’ve always been defined, at least in part, by being Buck’s sister.” Anger had laced her
tone, anger at him, at NASA, at herself, even at Bucky. “I was Bucky’s sister even before I had my
own fucking name. Am I still a sister? If I don’t have a brother, am I still his sister? Who am I now,
without him here?”

She’d turned back to him then, her hands clenching into fists at her side.

“Am I still a sister?” Becca’s eyes had been hard but her voice had broken on the word ‘sister’, her
jaw twitching as it clenched as though she could hold in all her pain through sheer force of will, as though she hadn’t been doing just that for weeks already, shoring up any perceived weakening with fresh anger and grief, unwilling or unable to break, unsure if she’d ever be able to piece herself back together again. Rhodey suspected that she was strong enough to continue to do so for some time were it any other day than her brother’s funeral.

The second she’d attended, and by far the most overblown.

“I’m sorry?” Rhodey had asked. “I don’t understand.”

“When people ask me ‘do you have any siblings?’ what do I say? Yes? No? Had?” She’d drawn a shuddering breath, blinking rapidly. “Saying no feels like a lie. It feels,” Becca had placed her hand over her heart, “like someone’s ripping my heart out of my chest. Like I’m denying he ever existed. But he did. Bucky was my brother. He was real and he was mine.” She’d lost her fight against the tears then, swiping angrily at the wetness on her cheeks, eyes red.

“But he’s gone. So-I-uh…So, I don’t have a brother. Saying yes seems like a lie, because he’s gone. I had a brother. So what do I say? What do I say when people ask me? It’s like he’s there but he’s not, like some sort of fucking ghost story, but he was real. When he left it was the first time in my life I’d been on Earth without him. Did you know that? He wasn’t perfect; he could be a complete asshole, and occasionally an overprotective jerk, but he was my brother. After dad died,” Rhodey had tugged a clean handkerchief from his pocket, offering it to her as fresh tears spilled, “Bucky practically raised me because Ma was devastated. Made my lunch before school, got in fights when the other kids picked on me, helped me with my homework…when I had a nightmare, he’d always come and sleep on the floor next to my bed to prove that there weren’t any monsters under it. He never left me alone or scared, but he was alone and he must have been so sca-”

She’d cut herself off, sniffing hard, shaking off his hold to force the heels of her hands into her eyes, breathing hard until she felt under control, until no more tears fell. There’d been a desperate edge to her voice as she’d pled with Rhodey for answers. Answers he could never hope to give.

“I still reach for the phone to call him when I hear a shitty joke. Isn’t that stupid? All this time and yet it’s my first thought. ‘This joke is so stupid, Bucky’ll love it.’ Whenever my phone rings I think, just for a heartbeat, that it’ll be him. That I have a brother again.” She’d swallowed hard, eyes squeezed shut. “That this is some fucked up nightmare I’m finally waking up from, that the monster under my bed isn’t real. But it’s not a nightmare. It’s not a nightmare. And every time, every single fucking time I hope it is, it tears me open again. I’m so angry and I’m terrified and the person I’d run to, the person that’d lie on my floor and sing to me, the person that always protected me, he’s not here. So what do I do now?”

Rhodey had reached out to take one of Becca’s hands, trying to offer what paltry comfort he could, aware it wouldn’t be anywhere near enough. Only giving her Bucky back would do that. She’d been shaking so hard she’d been practically vibrating, her anger and grief forcing its way out of her, her small hands so cold within his own despite the day’s relative warmth.

Rhodey had been floundering, lost in a sea of questions he’d never been to answer for himself in the fifteen years since his own sister’s passing. In the years since he’d been informed of Jeanette’s death, he’d had to stop asking himself the same questions that Becca couldn’t shut out. He’d never found any answers that helped, that eased the hurt, that filled the void her death had left in his heart.

He and Jeanette hadn’t been close for years before her disappearance, hadn’t seen each other in over six years before the police had called him. She’d vanished while he’d been stationed overseas, his parents devastated to one day find her apartment empty, her cell no longer in service, and no idea of where or why she’d gone. Rhodey had spent every spare moment that he’d been State-side trawling
the streets, handing out countless flier and pictures, calling hospitals and morgues in the tri-state area, and making a nuisance of himself at every police station in New York.

Nothing.

When their father had gotten sick, cancer racing through him, Rhodey had hired a private investigator, but by the time the PI had scared up a possible lead in New Orleans, Terrence had long since passed. It wasn’t until the phone-call two years later that Rhodey had been able to reunite his family, Jeanette buried beside their father.

Rhodey had never given up the search but as the days became weeks, became years, in his heart he’d known he’d never see his sister again. He’d had time to prepare himself, to come to terms with the fact he’d done the best he could, and that he’d never know what caused Jeanette to flee from what had appeared to be a happy life. But Becca had never known that sort of separation, Becca had never so much as gone more than a week without talking with her brother until his training had enforced such silences. The Barnes siblings had had the kind of relationship that Rhodey had always wanted with his own sister, but had never been able to navigate the path. A small spark within him had always held out illogical hope he’d hear his sister’s voice just one more time, but Becca had no such comfort, no small kernel of hope burning in her chest.

“Miss Barnes—”

“Ma, she believes it was all a part of God’s plan.” Becca had almost spat the words, her eyes narrow as she searched Rhodey’s face for his reaction, her shoulders set as though preparing herself for battle. “It gives her comfort, I guess. I wish I believed it too. I wish I could believe in a God that would kill my brother and leave him alone on another planet. But I don’t. I refuse. Maybe that’s petty, and maybe it’s spiteful but I don’t fucking care.”

Rhodey had understood that.

Growing up, Rhodey had attended Church with his family every Sunday, faith an important part of his parent’s lives. It had been the first real sense of community that Rhodey had experienced, the congregation coming together regularly for more than worship alone, bonded by their shared belief.

Then he’d grown up and joined up, part of a whole new community, but this time feeling his faith eaten away by all he’d seen and done such that by the time he left the Air Force he no longer felt that warm glow of his faith, the well run dry. By the time of Jeanette’s disappearance, by the time of learning of her death, he’d long since ceased praying to a God he no longer felt connected to, a God that had never seemed to listen to his pleas.

He’d watched too many good people die, in agony and fear, to believe in any grand plan or better place. He wanted, he hoped that there was something after death, that there was a reward for those that had lived good lives, that there was a peace to be found on the other side of the veil. He wanted to believe that someone didn’t just end. He’d heard all the stories astronauts had told, their extraordinary experiences during EVAs, their tales of spirits or angels, their belief that something was out there in the depths of space.

Nothing in the universe was ever truly destroyed after all. So surely there must be something…

But none of that was any help to Becca, a woman working so hard to push her grief down for her mother, to hold herself together, to fake it until she made it. A young woman whose eyes begged him to make it better. To take away just a little of the pain that was crushing her.

“It’s not fucking fair.”
“No, it’s not.” Becca had seemed surprised by Rhodey’s response, as though she hadn’t even realised she’d spoken aloud.

Silence stretched between them, Rhodey choking on all the words he couldn’t say, promises he couldn’t make. He’d held Becca’s uncertain gaze, watched as the fire in her eyes guttered and faded.

“You don’t know the answer, do you?” She’d sounded so small, so tired, and Rhodey had been hit by a sudden memory of her as she’d been standing in the family room at Houston to watch the lift-off. She’d been so overjoyed for her brother, but in her eyes he’d seen the moment she’d really understood that it was all real, that Barnes was actually going into space, that there was always that possibility that he wouldn’t be coming home again. Her smile had faltered as the crew had been sealed into the shuttle, the support crews leaving the launch site. Rhodey had been hip deep in checks and protocols and adjustments, but he’d glanced at the monitor that showed the family room just as the main engines had ignited, he’d seen how her hand had tightened on the rail, how her lips had moved in a silent prayer.

Becca had been right: he didn’t know what to say and so he fell back on what everyone always said: “I’m so sorry for your loss.” The words had been like ash in his mouth.

“Yeah,” she’d sighed, “you and everyone else. Everyone’s so fucking sorry.”

Rhodey had walked her back to the car, Becca shrugging off his hold as she’d slid in beside her mother, taking up her hands once more as Winifred stared blankly out the opposite window. He’d closed the car door so carefully as though afraid those within might shatter, before turning into the comforting arms of Carol as the car left, leaning into her strength gratefully.

Within fifteen minutes of the Barnes women’s departure, the only sign of the ceremony were the flowers at the base of the Mirror, the only sign of Barnes his name reflected in the sky.

The atmosphere on the flight home was even more oppressive than the flight out, not even Cho trying to work. By the time they’d landed back in Houston, Rhodey’s head had been fuzzy, the skin of his scalp feeling like it was being pulled tight, a thumping behind his eyeballs leaving him desperate for time away from fluorescent lights. He’d travelled back to Mission Control with Tony, trying to engage him in conversation more than once, but just as they had been on the plane, his efforts had gone ignored. Once they got back to the complex Tony had locked himself into his office, the creaks and bangs that followed suggesting he’d dragged his couch to block the door, shutting even Pepper out.

“Rhodey? You okay?” Came a voice from his doorway, hauling him from his maudlin thoughts.

Swivelling around, Rhodey smiled at Director Fury, the imposing man filling most of the doorway. He nodded, blinking rapidly as the bright light from the hallway spilled around the man’s form, blinding in comparison to the gloom of his office. Squinting through watery eyes, Rhodey heaved a sigh of relief to see the immense cups of coffee in Fury’s hands, reaching out eagerly for one. He took a deep draw, uncaring that it was made to Fury’s own specifications: more caffeine than the human body should ingest, bitter as hell, and really in need of milk and sugar.

“Better now.” His attempt at levity fell flat, Fury raising an unimpressed brow. Rhodey shrugged, shaking his head. “Guess as good as I’m going to be today.”
“You know, you should have given a speech.” Fury moved away from Rhodey’s desk, one hand trailing along the spines of the books on the shelf that ran the length of the room.

“We both know that’s not true.”

“Didn’t know what to say?”

“Didn’t think ‘it wasn’t fucking fair, and nothing is ever going to make the pain go away’ was what anyone wanted to hear. Certainly not Barnes’ family.”

Fury gave a mirthless laugh, plucking a journal off the back of the couch, idly flicking through it. “Man, I remember the days when nobody wanted to hear anything I wanted to say and I could get away with saying truthful shit like that. Now I’m the Director of NASA and people expect soundbites from me.”

“You waiting for sympathy or…”

Fury made his way back to Rhodey, tossing aside the magazine as he weaved around the back-breaking chair to sit on the edge of the desk instead.

“You sure you’re good?”

“I’m fine.” Fury’s snort of disbelief rankled, but Rhodey didn’t rise to the bait.

“Good, then you can get back to work.” Rhodey’s computer, traitor that it was, chimed again, the sound faintly accusing, as though it were siding with his boss, but he’d already missed enough that day that another ten minutes wouldn’t hurt. Besides, he had something so much more important that he was even more determined to drag out of Fury after today.

“Sure. I wonder what I’ll start with today.” Rhodey leaned back in his chair, rubbing two fingers along his lips as he narrowed his eyes at Fury. “I know, I’ll start with demanding the satellite time you’ve been denying me again and again. I’m not going to stop asking, Nick.”

Fury sighed, pushing up off the desk and stepping over to the window, breath fogging the glass as he stared out over his empire. Or at least the southern parking lot.

“And here I hoped we could roast marshmallows together and trade war stories.”

“Nick.”

“You know why I won’t authorise the time.”

“I know the story that you keep telling me. The one that comes with its own shovel. And you know I won’t stop asking. I believe my performance review for last year included the term ‘tenacious as hell’.”

“It’s strange that you seem to be taking that as a compliment.”

“I did and I do. It’s how I survive Stark. Stop deflecting. I need that satellite time.”

“Air. Water. Sleep. Coffee. Those are things that you need. Satellite time? That’s a want. Wants can be denied all the damn time. Why do you want it so much?”

Fury turned back around, throwing his now-empty coffee cup towards the trashcan to effortlessly earn 3 points. He headed back over to the couch, laying out flat, kicking his feet up onto the armrest, boots smudging dirt across the leather as he arranged the cushions under his head to better glower at
Rhodey in comfort. Rhodey recognised the signs of the man settling in for a negotiation, which was further than he’d gotten before, Nick normally shutting him down without even looking up from the piles of paperwork that hid his desk. This was Nick’s silent way of requesting for Rhodey to convince him, or at very least to try. Rhodey was more than up to that challenge; he’d been rehearsing that argument for weeks, ever since the evacuation. He’d just never gotten the chance to voice it before.

“I need it.” Rhodey didn’t miss the way Fury’s eyebrows furrowed.

“You keep failing and you keep asking.”

“I haven’t failed, I’ve just found ten thousand ways I can’t convince you.”

“Tell me, Edison, why do you think you need it?”

Rhodey resisted rolling his eyes. “Because of what it can show us, because of how much we can learn from Ares 3.” Rhodey ignored his friend’s sigh of annoyance and carried on. He was only warming up. Manipulating a man like Fury took precision and finesse, a gentle hand. Nobody could force Fury into doing anything, he’d just dismiss the order and do whatever the hell he wanted anyway. Instead you had to lead him to the idea, let him convince himself it was the best option, the only option. Of course the difficulty was that Fury knew that Rhodey knew all that. He also knew that Rhodey could be a manipulative bastard when he wanted to get his way.

Didn’t mean that it didn’t work though.

“I know the mission failed but we can salvage from it. We’re fully funded for Ares 4 & 5. What we might have learned from 3 might have gone some way towards funding a 6th mission, and it still could.”

“How?” Fury crossed his arms over his chest, the leather of his coat creaking in protest and Rhodey knew he really had the man’s attention. If the answer was no, Fury had no problem with being direct, but if he was seeking more information, then Rhodey was on the right road to convincing him to give him the time he wanted. Ducking his head to hide his triumphant grin, Rhodey continued.

“They evacuated after only six Sols. There’s a Hab, two rovers – the batteries will be dead but get the solar array up and running and get ‘em juiced they should work and we can test how long a rover battery can be dead before it refuses to charge, we’ll have the time. There’ll be almost two months of food – which we all know will be as edible at the next millennium as it is now – as well as all their equipment. That’s almost an entire mission worth of supplies. A sixth mission would cost a fraction of the price as a result. Just need the MAV, MDV and the normal servicing to Valkyrie. There’s no reason to assume she couldn’t do an extra trip.” Fury scoffed, no doubt at Rhodey’s use of the word ‘just’ in regard to the funding for the multi-million dollar space vessels they’d need. Instead of the normal 14 supply probes, it’d take two, maybe three to replace what was used by 3 or that might have gotten damaged in the time between now and when 6 might get there.” He left out that it would be roughly ten to twelve years before 6 would arrive, during which the site would be subject to countless storms and potential damage.

Fury cocked his head to one side, drumming his fingers on his forearm as he stared at a point just over Rhodey’s shoulder, who knew better than to interrupt him.

“It all got hit by 175kph winds; it’d all be in piss poor shape at best, and in pieces across the damn planet at worst.” That was not a ‘no’, and if Rhodey could just wedge his foot in that miniscule opening, he could get somewhere.
“Which is why I want the imagery,” Rhodey insisted, tamping down a thrill of victory at Fury’s potential capitulation, after weeks of refusing Rhodey even the chance to argue his case. “We’d learn a lot about the site, the state the Hab is in, if the rovers are in one piece, and let’s face it, those things are almost impossible to kill and are outrageously expensive to build and to get up there. They’d need to be dug out, but our astronauts are fit and it’d be good exercise for them. The savings on them alone would be astronomical.”

Fury’s eye narrowed at the pun, but he didn’t comment on it.

“Enough to determine that we could send people up there without knowing everything was in perfect working order?” Fury’s tone was sharp. He’s already lost one man up there, he wasn’t risking another six. He’d never risk any of those under his command, not when there was a safer option.

“Everything doesn’t have to be perfect. You know that. We’d get a good idea of what needed replacing and send spares of others so that repairs could be made. Literally the only thing on a mission that has to work is the MAV and we’d be sending one in good enough time anyway that it’d be gassed up by the time they got there. If the situation was untenable, if they couldn’t fix the issues in a couple days,” he held up a hand to forestall Fury’s argument. “It wouldn’t be comfortable but they could spend a couple days in the rovers or MAV if they needed to while making repairs. Wouldn’t envy them having to, but it’d be possible.

“How would we know from the imagery what was broken?” Fury’s expression had taken on the far-away look of a man already writing his speeches for the appropriate committees and governmental bodies.

“These images would just be a first step. Is it a commitment phobia? Because pictures don’t equal a mission. I’m not asking you for a ring here, Nick, just be open to the possibility.”

“Commitment phobia?” Have you been reading Cosmo?”

“We’d know about the contents of the Hab because if it’s not collapsed then it should be fine,” Rhodey, with the practice of many decades, ignored Fury’s jab. “The same with its contents, and replacement parts for the Oxygenator and Water Reclaimer are fucking light, they’d not cost a lot to send. We’d have to keep checking on the site, make sure no big changes happened-”

“Like if the Hab got torn open like a fucking can? Maybe it already has.”

“In order to know, you have to let me have the satellite time.” Rhodey sighed. “Just…just let me take a look. I’m asking you, Nick. I’m asking, please.”

“You think you’re the only guy wanting satellite time? Ares 4 is prepping, they need their images of their landing site, too.” Rhodey sat forward a little at Fury’s words, recognising the words as the evasion that they were. Sure, he wasn’t getting an out and out no, but if after the progress he’d made, Nick was backpedalling, something else was the reason, something else was causing the hitch. He wasn’t getting the real reason why Fury was refusing time. Which shouldn’t have come as a surprise. Nick played all the angles and he wasn’t good at sharing.

It was infuriating. Why let him say his piece when it was never going to happen? Why string Rhodey along just to shut him down? He wasn’t just any old employee, he wasn’t just yet another council member asking for more and more and more of Nick. He was a friend.

He didn’t appreciate being played with.

Leaning forward, Rhodey rested his elbows on the desk, hands clasped as he fought down the flare
of anger he felt at being played, fighting to keep his resentment off his face and his breathing even before he risked speaking.

“What is this really about, Nick?” Rhodey’s voice didn’t betray his irritation. There are twelve satellites in orbit of Mars. Twelve. We both know damn well a couple of them can be repurposed for an hour without causing any issue for Ares 4 to get their pretty vacation pict-”

“It’s not just about the satellite time, Rhodes.” The use of his surname pulled Rhodey out of his spiel. Rhodey’s eyebrows raised. “No shit.” The leather creaked again as Fury shifted.

“If it isn’t about the damn time, then what is it?”

“You know damn well what it is, Rhodes.”

The repeated use of his surname made Rhodey blink.”

“Pretend I’m stupid, Nick. Spell it out for me in little, condescending words. Why are you making me jump through all these hoops if you’re not going to eve-”

“We operate in the public eye. We are a public domain organisation. There is no such thing as ‘Eyes Only’ here.”

“Yes,” Rhodey said slowly, not following. “I know.”

“So any images we take, are public. As in, released into the public domain within twenty-four hours of capture. Anybody can see any picture we take.”

“And?”

Fury let his head loll to the side, brow furrowed as he stared at Rhodey in irritation. Rhodey just shrugged back, one hand snapping out to slap down on his keyboard when his computer dinged again, the screen firing awake. Rhodey didn’t miss the smirk on Fury’s face when he reached out to turn off the screen. The amusement fell from Fury’s lips as Rhodey’s point was made; he wasn’t going to return to work until he got an explanation that satisfied him.

“Rogers lost sight of Barnes shortly after leaving the Hab. Which means that his body is likely within 20 metres of its walls. Maybe he’s partially buried in sand, but his body is up there. With an antennae sticking out of him. Any images we take of the Hab are going to have his corpse in them.”

Rhodey closed his eyes on a sigh and counted to ten.

Then to twenty.

Then on to thirty when he felt himself getting angrier rather than calmer, hands clenching into fists as he talked himself off the ledge. He doubted he’d been this angry in years, but he didn’t shout. He didn’t slam his palms onto the desktop. He didn’t have the energy, his disappointment in his friend exhausting.

“That’s what this has been about? That’s why you’ve been dodging me for week? A potential PR problem? Is that why your speech was so heavy on the dangers of space travel? Never thought I’d see the day Nick Fury was on damage control. I never took you for a coward.”

“Don’t you dare take that tone with me, Rhodes.” Fury swung his feet to the floor, sitting up. Pushing himself to his feet, Fury advanced of Rhodey’s desk.
“The media has been hounding us about this since I had to go stand in that fucking Press Room with the motherfucking red folder and explain that an American astronaut had been killed on Mars. That for the first time in fifteen years NASA had lost one of its own. I had to call his mother, I had to break her heart, and today I had to stand there and do it again. You want his family seeing that on the 10 O’Clock News? You think Winifred would thank you for that? You think Rebecca wouldn’t get on the first damn plane here and punch us all in the face?”

The man had a point, Rhodey was loathe to concede.

Just not one good enough for him to stop.

“The only reason the press interest is starting to ease on baying for my head is because they’re losing interest. Today some asshole will have snapped a picture on their fucking cell and tomorrow it’ll start again – there’s nothing like a tragic photogenic mourner to sell newspapers. Only this time instead of Barnes on the cover it’ll be his family. They’ll have their lives intruded on again. The tragic widow that lost her only son. You hand them an image of his fucking corpse…you can kiss the Ares programme goodbye, Valkyrie will get broken up, and you’re talking about funding a fairy tale sixth mission?”

“Two months of shitty press, day after day after day. I don’t want all that firing up again, it’s been a struggle enough as it is keeping us above water. No Ares programme, no need for a Director of Mars Missions.”

“So we do what?” Rhodey asked, acid lacing his tone. “You think threatening my job will get me to back off? His body will never decompose, Nick. He’ll be up there forever. We just, what? Abandon everything?”

“Not forever.” Fury countered, stepped towards his desk, resting both fists against the wood. “In a year or so his body will be covered in sand-”

“A year?” Rhodey asked in disbelief, ignoring how high his voice went. He took a moment to force out a breath, to sit back in his chair. “You’re asking me to wait a year for images.”

“Maybe less. But why not? What’s the rush? Ares 5 won’t be launching for another five years, you’ve got plenty of time to prepare for a potential 6th mission.”

Rhodey didn’t give a shit that Fury was right, that there was no reason for him to be so adamant about getting the images now. Or at least, no reason that he could explain, he just knew that he needed to get those images and needed them now. He’d been unable to pin down the why of it, but he’d also been unable to shake the incessant feeling that there was something…off. Something wrong and that he had to see the site for himself, had to see everything was as expected. He’d chalked it up to the soldier in him, the one that could never leave a man behind, the wrongness of that crawling beneath his skin.

One thing he certainly wasn’t going to do was to ignore that feeling; his gut instincts had kept him alive more times than he could count. Even if he lost this round today, he wasn’t going to stop hounding Fury for the time, and he’d held an ace up his sleeve for the last few weeks. He’d been loath to use Barnes’ body to get what he wanted, the idea leaving him nauseated, even more so after seeing Becca and Winifred, but he could practically see Fury making the decision to shut down his request and he couldn’t give up the ground he’d made.

If Fury wanted to play the PR game, then so could he.

“Okay, but think about it this way. Sympathy for Barnes is at an all-time high. Sympathy for his
mother and his sister…they’re going to be on the front cover of every newspaper tomorrow.” Beyond the risk of the amateur paparazzi that had milled around the barricades keeping them away from the Mirror, was the matter of the actual paparazzi. The press had been kept away from the ceremony itself but that didn’t mean they hadn’t been at Kennedy, their telephoto lenses allowing them to intrude on the event regardless. Ares 6 could be billed as the mission to retrieve his body, give his family that closure.” Rhody had to swallow down bile at using his friend as barter, using a family’s grief to get his way, but he couldn’t ignore that itch at the back of his mind that he had to get those pictures. “Congress would support any mission to return a fallen son. But not if we wait a year, Fury. If we wait, it’ll never happen. People won’t care anymore. They’ll be back to wondering about what no-name starlet had plastic surgery she’s denying or who got drunk in Vegas and married a stranger, or whatever shit People is pedalling.”

Rhodey rubbed his hand down his face and tried to calm the flutter of hope he felt in his chest.

“I know what you’re doing.” Nick rounded on him.

“Don’t doubt it.”

“Try not to look so fucking pleased with yourself.”

Rhodey flashed a grin. Fury flipped him off.

Chapter End Notes

The William James quote President Ellis uses is *The great use of life is to spend it for something that will outlast it.*
Where In The Solar System Is Bucky Barnes

Chapter Summary

Kate Bishop had really thought her new job was going to be different, be important but it was turning out to be a complete snoozefest, replete with shitty coffee, uncomfortable chairs and all the monitors you could ask for.

Except for tonight.

Chapter Notes

See the end of the chapter for notes

Kate Bishop stared at the ceiling. As ceilings went it was pretty standard. That is to say, it was pretty damn dull. But staring at it and throwing back swill masquerading as coffee was the only thing that kept her awake during the 3am shift. Which she’d been on for the last damn month because of that freaking bet she’d made with Lang. With a groan, she grabbed her cell off the desk, lifting it overhead. Pressing send on yet another text that she knew her friends wouldn’t reply to until a decent hour – around noon – when ironically she would be asleep because her job was hell on her social life, Kate twirled around on her chair. The chair was the best thing about her office, and she was never going to admit that she was the one to steal it from the third floor conference room.

Really, it was more like it was liberated. She hadn’t been to know that it’d only been in there to store it out of the way until that asshole Everett Ross, its eventual recipient, went on his annual fishing trip. Most of the people in the department had been counting down the days until the douchebag left, and to say she’d been upset to learn that it was his chair she’d taken would have been a complete lie. Kate had felt mildly bad about Wilson getting the blame but knew for a fact that he’d already violated at least four health & safety regulations, and broken into the NBL three times to go skinny-dipping that week alone, and was due a visit from the HR drones anyway. In her defence, she had left him an anonymous gift the next day. Nothing said ‘my bad’ like a crate of beer and a three pound bag of candy.

It was all worth it for the chair. Real leather, no broken wheels, excellent lumbar support, fully adjustable even down to the height of the armrests, and best of all, it made her feel like Picard in the Captain’s chair. Even if she’d known it was earmarked for Ross, Kate was pretty sure she’d have taken it anyway. She’d bribed one of the janitors for the second floor closet key and stashed the chair in their after her shift, swapping back in the plastic folding chair that actually came with the office, leaving it for Pietro who would periodically check in on the monitors during the day shift in case anything came in while she was out. It wasn’t like he ever seemed to be in the office anyway, running around hitting on half the staff.

It wasn’t like anything even came in. Mars was Mars. The satellites looked after themselves most of the time.

Which meant her job was boring as hell most of the time.

Feeling dizzy, she shot out her right leg to catch the edge of the desk with her toe, misjudging how close to the heavy console she was, slamming her shin into the edge hard enough to bruise, and certainly hard enough to slosh tepid coffee over her paperwork.
“Shit!”

Leg throbbing, she abandoned her post, setting off to the bathroom to find some paper towels, well aware the animals on day shift never left any in the breakroom. What the hell they did with them all she’d never know. Nor did she want to. Some people just knew grew out of high school. At the last second she snatched up her mug too; if her friends weren’t going to keep her entertained, and thus awake, then she’d need the caffeine from the vile sludge that impersonated as coffee that the vending machine down the hall pumped out.

No matter how bad it was, it was head and shoulders above the stuff in the breakroom. Kate suspected that she was the only one that ever changed the grounds, let alone actually cleaned the filter. What she’d discovered in there the week previous should have been sent to the biological sciences division to be studied.

“How had all this become her life; shitty vending machine coffee and hiding stolen chairs?

The job had sounded so fucking sweet.

The job was totally not as advertised.

Kate had jumped at the chance to apply the second the listing had popped up on the internal forum. Finally her dad would be proud of her. He’d never really understood her, not really, not the way she’d always wanted. He’d not understood her love of space, nor her insane curiosity, and certainly not her obsession with engineering. He’d expected his daughter to grow up the perfect society girl, to do as she was told, to smile, and wear pearls, and marry an equally perfect society boy who was the son of one of her father’s business associates. He’d probably be named Chad or Brad and would have cheated on her long before the wedding with a series of Mercedes’ and Brandis’ and probably a Chanel or two. That’d continue after the wedding and everyone would know and never talk about it and she’d be pitied and mocked in equal measures down at the club and that life could futz itself.

Because while she’d had the pony, and the convertible, and yes the futzing pearls, she’d also had grease under her fingernails asked for wrenches for Christmas and majored in Mechanical Engineering.

As a wonderful side-effect of the overalls and grease, she had also dodged the advances of any passing Chad or Brad. There were always silver linings everywhere if you looked.

Even while he paid for school, her father had warned her time and again that it was pointless, that she’d never be taken seriously, that she’d never succeed and should instead, if she was so insistent on working, come to his company instead. Getting hired by NASA straight out of Yale had been the perfect ‘fuck you’. Being able to call him and tell him that she’d been promoted to being in charge of all of NASA’s satellites around Mars…

The title was the only impressive thing about her job, because in reality it was snores-ville. It did, at least, come with an office. Well, Kate liked to think of it as an office. She always called it an office to her friends and during the incredibly sporadic calls from her father. It was little larger than a storage closet but it was hers. At least for half the day anyway. Safe to say she’d never told her dad just how dull her job was, not after she’d built it up to sound like she was some sort of superhero that was travelling to Mars herself to take the images.
It was turning out to be the most boring job she’d ever had, and that included the summer she’d served as a receptionist for the local PI firm *Eye Spy* so she’d actually have some work experience on her resume. Well, also because her dad had cut off her credit cards because of the misunderstanding between her convertible and a fire hydrant.

But mostly the resume thing.

*Absolutely* the resume thing/

At least at *Eye Spy Investigations* there’d been people to talk to throughout the day, she could play solitaire on the computer during downtime, and periodically, and totally not legally, take some cases that she took on herself unbeknownst to Angela, borrowing a camera and her neighbours bike. Even if waiting for cheating spouses to give her a good shot of a lip-lock, and hunting down stolen orchids – no really, she’d spent four days tracking down a greenhouse worth of rare orchids that were meant to be the centrepiece of her client’s wedding – wasn’t always the most scintillating of exercises, it had paid pretty well, allowed her to indulge her insatiably nosy side, and she’d been able to get her car fixed before her dad had unshackled the Amex.

At NASA, however, she felt like a glorified photo-mat, and barely even that. She’d didn’t have to do anything to receive the images, they just rendered, loaded and then informed her of their presence. All she had to do was compile them into a zip folder and send them on their merry way to whomever requested them. She’d not spent what felt like half her life in a library or a lab to do a job she was pretty sure a barely-trained monkey could do.

To think she’d actually believed that this job would finally make her daddy *proud*.

But that didn’t matter, because *she* was proud of herself. Okay, the job wasn’t perfect, but what job was? And it was *hers*. She’d earned it. Everything she’d ever had before had been given to her by her father or by someone wanting to buy favour with him, even the summer gig at Eye Spy. Starting work at NASA had been the start of a new life for Kate, away from her father, away from whatever former classmate of hers that was walking around hanging off his arm while telling Kate to call her ‘mom’, away from everyone that had expectations of her that she never intended to live up to.

For the first time ever, she was standing on her own two feet. Her apartment, shitty and small though it was, was paid for with her own money. When her father had her car repo-ed in a fit of pique when he could no longer control her, she’d bravely bought Craigslist and bought a bike off a guy that was at least 30% less of a creep than she’d expected, but still 70% skeevy as hell.

Her life wasn’t perfect but it was hers.

Her myriad of screens flashed awake just as she was walking back into the room; new images were rendering, which was often so slow that it reminded her of the dark tales her aunt would tell about something called dial-up. A flick through her notes told her that the requesting agent was one James Rhodes and felt her cheeks flush; she’d never met the Director of Mars Missions, but she’d long harboured a slight crush.

An *entirely* academic crush. Totally. The man held two PhDs *and* was a decorated war hero. Either one of those demanded respect, both commanded it. That he was handsome hadn’t entered her mind at all. Not even a little bit. Anyone that mentioned the age difference or her ‘daddy issues’ could get bent.

She opened a new email and started typing up the co-ordinates, and recognised the numbers… *Acidalia Planitia? But that was Ares 3, surely? Wouldn’t he be wanting information on Ares 4’s landing site, waaaaay over on Schiaparelli?*
Out of curiosity she clicked open the first of the seventeen images. Yup, Ares 3 site. Stomach rolling with the shame of it, she still found herself carefully studying the image for Barnes’ body. She was relieved, and a little disappointed though she wasn’t going to be exploring that sensation too closely, when she couldn’t find it.

She moved on, eyes roving over the intact Hab which she was sure Director Rhodes would be happy about. She was just moving the cursor up to close out the image when something caught her attention.

Something big.

She zoomed in on the image, leaning forward until her nose pressed into the screen, eyes crossing and aching and still the image remained the same.

“Futzting hell, you have to be kidding me….this is bad. This is super bad. What do I do, what do I do? I don’t know what to do! Nobody told me what to do in this sorta sitch~” She abandoned her mug, the coffee unpalatable on a good day but the knot forming in her stomach as she tried to piece together what she’d seen into a coherent whole made it untenable. She minimised the image, bringing up the NASA intranet and navigated to the specifics of the Ares missions. She read a few pages, clicking through to other pages and looking back to the image.

Calm.

She had to stay calm. All those nights chasing cheating spouses and light-fingered employees would finally paid off; they’d trained her for this very moment. Be patient. Be thorough. Be calm.

She needed to treat it like a case. She’d gotten those off-the-books clients back at Eye Spy not just because she was nosy, but because she was thorough, determined to see a case through to the bitter, bitter end, and damned good at it.

If she was going to even suggest what she was thinking, her argument had to be watertight.

Evidence. She needed evidence before she did anything stupid like run through the streets screaming eureka.

Picking up the phone, she punched in a code and waited – even at 3am, someone else was still gonna be at the other end. Someone had to be there because she had no idea what to do and someone else had to make the decision. Or at least help her to get what she needed in order to make the decision, which sucked because she hated asking for help. She was even worse at actually accepting it.

“Oh, hey. Hi. Uh, this is Kate Bishop over at SatCon. I need the mission logs for Ares 3. You know where the hell – I mean where I can get ‘em?” Reaching for a pad she scribbled a few lines as the person spoke. “Awesome, thanks. Really. Thanks. Night.”

She spent thirty minutes alternating between the mission logs and the images on her screen, feeling responsible for the death of an entire forest when she was done using and abusing the sweet ass printer that likely cost more than her rent and that she coveted tirelessly, and even went so far as to block out a rough sketch of what the log suggested of the state the Ares 3 site was left in, overlaying it over the images. At one point her phone beeped, but for once she didn’t care about which friend was awake or why; her discovery was far more interesting than some drunken account of yet another missed night out with friends.

The more Kate examined the images, the more she was convinced she was right. Which also meant being up a particular creek without a paddle and a really big hole in the bottom of the boat. This was
way above her paygrade. Stratospherically above. This was Director Fury level type shit.

There was no way she was calling Fury at, she checked her watch, 4am. Her stomach flipped at the thought. No way, she wanted to live. And keep her job, no matter how much she bitched about it. But mostly live.

But if not Fury, who? Not Stark, no way. Definitely not. Kate hadn’t known Barnes, didn’t know any of the crew really, though she’d met Barton. Ironically enough, their meeting had nothing to do with their joint employment by NASA; while Kate had grown up competing in fencing – because her mother decided that ladies of ‘breeding’ (whatever the fuck that was meant to mean) should be expert with an epee – when she’d left home to attend college, she’d joined the archery team, for no better reason that it looked damn cool. Within five minutes of signing up, the archery club had had to close up, the booth being swamped with hopefuls. She had later learned that she and the Olympic golden boy shared an alma mater and word had gotten out that he, and his biceps, would be teaching a masterclass the next month. That day would forever be memorable to Kate, but she didn’t doubt that with his varied and busy life, Barton didn’t remember her. She didn’t know the crew and yet when she’d heard of Barnes’ death she’d been devastated. She could only imagine what it felt like for Stark, to be standing in Mission Control and hear that Barnes was gone, that the crew had had to leave him behind. Stark had been friends with them all, was friends with them all and had lost more than just someone under his command. Kate had heard the scuttlebutt of how Stark had been acting when he’d gotten back from the funeral earlier, and there was no way in hell she was going to call him with what she’d found. Which meant not calling Potts either, which sucked because Kate liked Pepper. She was calm and professional and approachable and totally unlikely to fire her if she was making a monumental mistake. Not least of all because Director Potts didn’t have the authority to fire her which had been part of her appeal.

She was definitely not calling her manager Zemo. She could barely deal with the guy on a good day, and that was not today. All the days stretching into infinity didn’t look that great either. That didn’t exactly leave a lot of choices, which were pretty limited in the first place. She needed someone higher up the food chain than herself, someone who could go toe to toe with Fury with the information, and wouldn’t be immediately laughed out of the room. Which sadly counted out Selvig, with whom she’d more than a few lively conversations in the cafeteria. He was a conspiracy theorist at the best of times and would be more than open to listening to what she was sure she’d seen, but Fury would probably laugh him out of the room. Hill was too terrifying to contemplate and, like Fury, the thought of calling her at 4am was untenable.

There was always Coulson but he was on duty and she wasn’t going over to Mission Control to speak with him – hello room full of people listening in on a conversation - and she knew it couldn’t wait until he came off shift. By then Director Rhodes would be in, waiting for his images and they’d have lost precious time in the countdown to the images being released to the public.

Rhodes. Director Rhodes.

He’d be amenable…well, more amenable to listening to her. He was certainly able to put up with Stark’s eccentricity and that practically made him a saint. Of course, if she were wrong, she’d risk being fired for dragging him out of bed, but she wasn’t wrong, so that was not a possibility. Plus, he’d asked for the images so really she was simply providing them. At 4am. Because she was a 24/7 service

Kate checked her notes, flipping between images like a madman, hissing when she sliced a fresh papercut into her finger.

No, definitely not a possibility of being fired.
But even though she was sure she was right, she was still about to call the Director of Mars Missions
at the ass-crack of dawn.

“C’mon Kate, pull yourself together. What’s the worst that could happen?"

‘You could get laughed at. Demoted. Fired. Sent to Garner’s office for a psych assessment and
then fired.’

Despite the mediocre pep talk, Kate couldn’t make herself reach for the phone, managing only to toss
away her pen but not actual exchange it for the phone.

“You got this! You totally got this. This is big. This is huge, and Rhodes needs to know now.”

It wasn’t until she’d manage to convince her hand to curl around the handset that Kate realised she
had no idea what number to call.

“For futz sake! Is nothing easy around here?”

Grabbing the handset while she was still pumped up, she jabbed speed-dial 3, with far too much
force it turned out. Which is why, when the unlucky person at the other end answered, it was to a
stream of –

“Ow! Fuckity shit, ow ow ow, are you kidding me?!”

The dial-tone was all she got in response.

“Hello?” Kate pushed the phone against her ear, tapping it with a finger.

“Hello?!” She pulled the phone away, glowering at it. “For real, he hung up on me? C’mon people,
work with me!”

Depressing the tab on the dishearteningly ancient phone – damn budget cuts – Kate tried again.

“Hey,” she said with fake joviality when the person answered again.

“Ma’am,” she was advised, “I will not tolerate verbal abu-”

“Yeah, sorry about that, my bad, I stubbed my finger, you know how it is.” The person’s silence
suggested that he didn’t.

“Oookay, maybe you don’t know. Maybe it’s the time, hey what time is it there?”

“Ma’am, I can tell you’re calling from inside the complex. It’s the same time in my building as in
yours.”

“Right, right, that’s a good point. I’ve been on nights for a while and it’s kinda scrambled my brain
and I’ve been staring at a screen for-”

“Is there something I can help you with?”

“Straight to the point, I like that in a guy. No, wait! That came out wrong, I’m not… I’m babbling.
It’s because I’m nervous. You ever discover something huge? Something like visible from space
huge? And not fake Great-Wall-of-China-visible but real visible?” Kate couldn’t stem the flow of
words, her nerves pouring out of her, much to the annoyance and disdain of the guy on the other end
of the line.
“Anyway, I need the emergency contact info for Director James Rhodes. Yes, I know what time it is.” Kate rolled her eyes when the guy came out with another question. “No shit, really? Huh, it’s almost like I think this is a futzing emergency and that’s why I said the word emergency! Which is why it can’t wait, I need to talk to Director Rhodes now, or so help me I will – yes, I do have a pen.” Which was a total lie. In her annoyed lunge for one, she knocked her purple mug onto the floor, the carpet protecting the cup from breaking but doing its best to soak up the liquid.

Give it was cheap-ass polyblend shit, that meant it absorbed nothing at all.

“After what you just figured out,” she whispered to herself, “they aren’t firing you over coffee.”

Besides, everything was brown anyway. Chances were pretty good that nobody would notice given as how a coffee stain was probably the best thing that even happened to that carpet.

Rhodey had no idea what woke him, only that he’d been blissfully asleep one moment, and the next he wasn’t. He did know that he hadn’t been asleep nearly long enough; his eyes were gritty as he blinked into the darkness, a headache loomed behind his eyes, and he felt nauseous, excess adrenaline from whatever had woken him still coursing through his veins.

Kicking off the blankets, feeling too hot and restless to get comfortable, Rhodey rolled onto his side, punching his pillow into the right position and prepared to try and get back to sleep. When his cell rang, it’s unnecessarily chipper tone – set by Tony – piercing the tranquil quiet of his bedroom, Rhodey had to resist the urge to pick it up and smash it into the wall.

Until he noticed the number.

There was only one reason for someone in his department to be calling him at ass o’clock in the morning. Flicking the phone open, he was already swinging his legs over the edge of the bed as he answered.

“What the fuck has happened now? Tell me nobody is dead.”

Kate had seen Director Rhodes a few times since starting at NASA, always from a distance, and always when he’d been in a suit, calm and composed. However, the man she’d spied across a parking lot, or down a hall, was not the man that was making his way down the hall to her office, bleary eyed and holding a coffee roughly the size of a bucket as though his life depended on it, and stuffing the remains of a McHeartAttack into his mouth. This man had mustard on his cheek and a look in his eye that suggested he’d happily kill her for another few hours sleep.

Kate hadn’t known how she was going to keep her cool being in the same room with the Director of Mars Missions. She had less of one on how to deal with the man behind the title. What she was about to tell him probably wasn’t the greatest of ways to start things off.

She must have been staring at him for some time, because when he spoke and she focused on his face, he was frowning.

Shit.
“You Bishop?” His tone held a degree of irritation, though Kate figured he had a right all things considered. If she’d been asleep at 4am and someone rang her blathering on about sand, she’d not have been happy either.

“Uh? What? Oh, yeah! I mean yes, that’s me. I’m Bishop. Kate. At your service.” Kate’s eyes slid shut in mortification as she felt herself salute Director Rhodes. Her boss’ boss’ boss. In front of whom she was a gibbering idiot. Well, wasn’t that just great?

In the vain hope of distracting the man away from how she, a civilian, had just saluted him, Kate filled the silence that had descended. “How’d you know?”

Well, that was a stellar start. In her defence, she thought to herself, even in worn jeans, a baggy hoodie, and a leather jacket the man was intimidating.

Rhodes raised an eyebrow and pointedly looked up and down the hall, at all the dark and locked office and then peered over her shoulder at her open door.

“First clue? You’re waiting in the hallway. Second?” Rhodes pointed at the office door. More specifically at the piece of paper that Kate tacked on it during her shifts that announced her name and position. She felt her cheeks flush.

“Ah, yeah.” She smiled at him, feeling ridiculous. She would not be telling her friends about this when she regaled them about her meeting the DoMM. Most of them had never even met their direct boss, and here she was with Director Rhodes.

Successfully making an ass of herself.

“Are we going to stand out here staring at each other or…”

“Oh, God. Right, yeah, right. I’m a bit – I swear I’m not usually this goon-y.” She stepped out of the way of the door and ushered him in. As the Director passed her, Kate couldn’t help but notice that even at the early hour he smelt amazing. Or maybe it was the coffee. Or the lingering scent of greasy, greasy burger.

Her stomach rumbled as she followed him in.

Definitely the burger then.

“Ms Bishop.”

“Right! Coming!”

Kate tried not to fidget as she followed Director Rhodes came into the room, his expression giving away nothing but fatigue. Something flipped over in Kate’s stomach and she tightened her grip on the cuffs of her sweater, thumbs worrying at the holes in the sleeves. Even with mustard still on his cheek, bloodshot eyes, and what she was pretty sure was mismatched socks, the Director was still unfairly handsome. He was also ludicrously imposing and making her tiny office feel like the closet she suspected it really was. She had a sudden flash of regret that she’d not done a Google search and found something intelligent to talk with him about when he got in. Then again, with what she’d seen, the intelligent thing would be to skip right to the floor-show.

As Rhodes settled into her chair, he shot her a suspicious glance. “This is Everett’s chair, isn’t it? The one that Wade took the heat for after it mysteriously disappeared.”

Mouth agape, Kate stared at the boss of her boss’ boss, willing her brain to throw up an answer, any
sort of answer. What it gave her was –

“Uhhhh.” She cleared her throat and tried again. “Mr Everett’s chair? No, nope, definitely not. No sir.” She froze in terror when all Rhodes did was blink at her, his disbelief obvious. She tried to smile, but suspected it was more of a grimace of fear, which was appropriate.

“Please don’t fire me?”

“You know they threw out his old one before they realised this one was missing.”

“Oh.”

“So he got stuck with the one they dug out of storage with the pleather covering that makes it sound like he’s passing gas every time he sits or stands.

‘Don’t laugh, don’t laugh, don’t laugh.’

“Oh.”

“It suddenly drops down a foot for no reason.”

Kate couldn’t help it, the snort of laughter was out before she could stuff her fist into her mouth.

“Oh god, please don’t fire me. I’ll give it back.”

“No you won’t. Ross’ a prick and if you think that Tony is the one that loosened off the screws, then I don’t know what to tell you.”

“You’re not going to fire me?”

“For screwing with Ross? No. For waking me at before dawn over sand? That I’m borderline about.

“Yeah, sorry about that.”

“You wouldn’t have done it without good reason.” His tone suggested it wasn’t a question and that she should get on with it. He stared at her and she fidgeted with a cuff under his intense scrutiny.

“Well?”

“So, uh, your images, they came in and I was looking them over,” Kate tried to speed past the inevitable questions like ‘why’ only to hit roadblock Rhodes.

“You didn’t need to do that. It’s not your job to be assessing the images, that’s what I’m for.”

“I know, I know, and I swear I wasn’t trying to, y’know, be ghoulish or anything. Well, not ghoulish-ghoulish, more like ghoulish-ish. Ghoulish-adjacent.” She grimaced, rolling her eyes at herself; this was not the start she’d been hoping for. She needed to convince Rhodes of what she’d found, that she wasn’t a babbling idiot reading into something that wasn’t there.

“I just, uh, I guess I’m kinda nosy? It’s gotten me in trouble over the years-” Kate broke off and bit her lip. “It’s not going to get me in trouble now is it?”

“Depends.”

“On?”
“If you get to a point sometime before the next century.”

“Right.” Stepping up behind Rhodes, Kate reached over his shoulder for the mouse, discovering that it definitely wasn’t the coffee or burger that smelled that good, but she wasn’t going to get distracted again, not when this was so important.

“You should take a look.” Kate clicked on an a couple icons, the images opening up side by side on her enormous screens.

“I was planning on it.” The ‘in the morning’ went unspoken.

“Did you find Barnes’ body?” Kate could tell the Director was trying to find a way to tell her to get to the point without sounding like a complete asshole but was edging closer and closer to the point where he’d not care how he came off.

“Um, no. Well…no. Just, uh, just look.” She pointed at the screen.

Rhodes muttered to himself as he scrolled through the images.

“The Hab is intact…solar array looks good…rovers are solid…” He turned away from the screen.

“Forgive me, Ms Bishop, but this is what you woke me up at 4am for? I don’t know what you think you saw, but it’s-”

“Umm…” She pointed to something near the Hab. “That’s why I woke you.” He squinted at the screen.

“Hab canvas? Probably got pulled loose in the storm.”

“Rover pop-tents,” she blurted, eyes wide at having corrected the Director.

“Hmm,” Rhodes checked them out. “Yeah, could be.” He didn’t sound remotely convinced but at least not angry, and maybe open to the possibility of continuing to listen to her.

“How’d they get set up?”

“Commander Rogers probably ordered that they be deployed during the evacuation. It’s not standard procedure but it’s a damn good idea to have backup shelter in the case of the Hab losing pressure and the MAV failing.”

Kate gently brushed his hand from her mouse and lent over him to drag over her printout of the Rogers’ reports, flipping to the pertinent page.

“This,” she pointed at it, “is the entire mission log of the time Ares 3 was on planet.”

“I think I recognize the document,” Rhodes replied, dry as a bone.

“Right, sure, of course you do. I’ve read it, several times. No mention is made of the pop-tents being used and Commander Rogers is thorough.”

“I know, I’ve read his reports. Be grateful it wasn’t Thor’s version. The term ‘ode’ would be more appropriate.”

“I’ve read the planetside logs over and over and over again, and Rogers records everything, from porta-potty poop duty to who got out of bed last in the morning. There is not a pop-tent popping peep.”
“Obviously the tents were deployed, they’re right there,” he pointed to them on the screen, fingertip leaving an impression on her LED monitor that took several seconds to fade. “Rogers just didn’t log it.”

“Someone on the crew deployed two emergency pop tents and failed to log it? Commander Rogers didn’t record it? Wilson came back from the MAV in the rover right before the evac and Rogers even reported that. No way he had the tents deployed without logging it.” Sarcastic disbelief was making her bold.

“Well they’re right there…maybe damage from the storm caused a malfunction and the rovers deployed.”

“For real? And they, what? Self-detached themselves from the rovers, marched over to the Hab and neatly lined up next to the Hab 20 metres away?” Oh god she was gonna be fired. So fired. She just sassied the Director of Mars Missions. “What about the MDV?”

“The MDV?”

“The MDV that’s had part of the hull removed.” She pointed to the areas on the screen where the missing panels on the vessel were obvious, dark gaping wounds across the vessel.

“Storm damage.”

“Is that going to be your answer to everything?” Kate had to jump back to avoid getting kicked as Rhodes span around in the chair, her back hitting the wall, barely enough room in the office for them both. She held up her hands in a placating manner after a microsecond of looking into Rhodes’ face, his expression thunderous. “Okay, okay, I get it, my bad. You’re the big, bad Director, and I’m the lowly underling. But c’mon, you gotta work with me here.”

Rhodey hummed, narrowing his eyes at her for a moment before he swung back to scoot closer to the screens again.

“Look just here,” she tapped her finger against the screen, over one of the dark smudges. “Have you ever seen that sort of panel removal during any of the testing? Didn’t you guys basically abandon them out in Utah or something and let ‘em get battered with storms. Those things are designed for space travel, a little banging up is kinda built in.”

“I’m aware, Miss Bishop.”

“The removal is too uniform, look.” Again she jabbed at the screen, stubbing her finger against the monitor, smearing the screen, hastily pulling her sleeve over her hand to try and buff it off, only making it worse. “It’s all along the lines of the panels.”

“They’re weak points.”

“No, sir. I mean, yeah, okay, that’s right. But the wind ripping out the panels so perfectly rather than buckling them in or them bowing out? Those panels were removed. I’d swear it.”

Too terrified to look at the man, she pointed weakly at the screen, not giving him time to counter. “Look here. You mentioned the solar cells.”

“Yes, they appear undamaged. They look like undamaged, unmoved, un-dissassembled solar panels.”

“Anything seem strange? Just look at them. Really look at them. Just this last thing. Please.”
Clearly not up for a game, Rhodes waited for the answer, fingers drumming on the desktop.

“Y’know what else they look like?” If she was gonna get fired, she was going out with a bang. They look clean. *Wiped* clean. There was a storm so strong they had to abort and yet those cells are pristine.”

Rhodes leaned forward in the chair, swallowing audibly.

“A strong wind could have…” He started weakly.

“Did I mention there isn’t a single sign of Barnes’ body? There’s no dunes, no partial covers, nothing but flat-ass Mars as far around the Hab as the image shows, and that’s a good hundred metres in every direction.” That was it, she’d played her trump card. She was played out and if he didn’t believe her now…Kate stumbled back, hitting the wall, slumping against it, suddenly exhausted.

Rhodes grabbed the mouse back, shifting through each image himself as Kate felt tears trickle down her cheeks. She sniffed, scrubbing the back of her hand across her face; telling Rhodes about it had made her suspicions all too real.

“I’m sorry, gimme a second.” Kate startled at the warm weight of Rhodes’ hand on her, expression soft as she tried to pull herself together, unable to hold his gaze, tearing her eyes away to stare at the floor, something too intimate and terrifying in his eyes. She hadn’t realized that a part of her had wanted him to instantly deny it all, to show her how wrong she was. So caught up in her discovery had she been that she’d forgotten what it meant, the horrific reality of the situation. She’d been so consumed by proving she was right, in being believed, in showing she was so much smarter than her job suggested that she hadn’t realised that a part of her wanted to be wrong.

But he hadn’t. He wasn’t. He was scrolling through the images, leaning closer and closer to the screens as he did, free hand running over the pictures, muttering to himself about wind direction and speed, tracing over the western quadrant of the image, the direction Barnes’ body would have been swept. Without warning he snatched up Kate’s notes, flicking through them and looking back to the screen.

He still wasn’t telling her she was wrong.

“Oh…son of a-” Rhodes whispered as Kate sobbed into her sleeve.

Chapter End Notes

Unfortunately chances are the updates will slow for a while - my mother has become extremely ill, making that now three members of my family in hospital and its robbing me of both time and inclination to write as I'm just a ball of stress right now. Writing is one of my escapism/self-care activities as it makes me happy, so I do still try to write a little every day to keep myself sane, but updates might be a little more sporadic for a while, for which I can only apologise.

I wanted to post today as it's my birthday and therefore I get to do what I want ;)

Also, Arden Cho is who I imagine as Kate in TMOTW
A Problem Shared Is A Problem Halved...?

Chapter Summary

The other Directors of NASA are brought in on the horrific discovery. Now that Houston is aware of Bucky's plight, what are they going to do about it?

“Fuck!”

Pepper Potts didn’t normally swear. The Director of Media Relations saved that for when her partner was driving her insane. So rarely did she swear that it always got people’s full attention when she did. It meant that whatever was happening, whatever shitstorm had just hit was so monumental, so out of her control, there was no recourse but to curse.

To hear Pepper swear never failed to fill those around her with dread and unease.

This meeting was no exception.

“You have to be kidding me! You have to be kidding me. Please” She looked beseechingly at Rhodey. Besides being colleagues, they’d been close friends for years and she searched his face for even a hint of a tasteless joke.

She knew she wouldn’t find one. Tasteless jokes were more Tony’s speed and even he wouldn’t pull one like this, especially not a little over twelve hours after Barnes’ memorial.

Behind her, Fury rubbed his brow, head slumped forward.

“How sure are you on this?” Pepper held up a glossy picture, helpful annotations pointing to the evidence supporting Kate’s discovery. “Before we do anything, just how sure are you that this is true?” Her voice held a note of desperation that Rhodey take back what he said, deny the evidence.

“Almost 100%” Rhodey replied confidently.

“How almost?”

“99.99%”

“Fuck,” Fury and Pepper spat, Fury slamming his palm down onto Rhod’s desk.

“We’re going to have to prepare a release.” Pepper tucked the papers under her arm and stalked over to her purse, a stylish leather affair that likely cost more than a small car. At any given time one of Pepper’s bags would contain the necessary accoutrements for her to take over the world with minimal effort should she so desire. Mary Poppins would have been envious of the sheer quantity of stuff that Pepper managed to secrete within the hidden pockets. This time, the PR pro withdrew a leather folio and a pen, flipping instantly to a new page, pen a quick scratch against the page.

Pepper Potts was prepared for just about anything the world threw at her, but what she’d just been told fell into the ‘not prepared’ category and so she fell back on what she knew and what she could control, and what she could control was the damage that this was going to unleash.
Or at least try.

And to think, Fury had been worried about uninvited press intrusion on the memorial.

“We wait for confirmation. Re-assign the satellites, get better images.” Fury stood, pacing the length of his office. Rhodey didn’t miss the narrow-eyed expression Fury threw his way. The man might never say it, but Rhodey could read the look better than most. It was placing the blame for what was to come squarely at Rhodey’s feet.

“That’ll take at least a day if you’re hoping to take enough picture to potentially catch Barnes outside, not to mention it’s literally the middle of the night at the site right now, we couldn’t see jack-shit even if we did have the satellites where we need them. Public domain, remember? Twenty-four hour limit, of which there is less than twenty left before this shit-storm goes public one way or another.” Rhodey fired back, still bitter over their earlier conversation. “Conspiracy nuts have long said that Barnes died in a different manner, that we faked the abort. Fuck, half of them think we film the Ares missions out in Utah or in a studio in someone’s basement.” Rhodey solely blamed ‘Capricorn One’ for that particular theory, even if it was a great movie.

“And conspiracy nuts also drink their own piss and see spies behind every corner. Some of them even see Bigfoot on Mars, so I don’t give a shit what they think.” Fury held up a print and waved it, the gloss catching the light, “Half of them will just decry that this is fake too. A power-play or money-grab to enable a sixth mission back to the site. Barnes wouldn’t decay – there’d be no way to prove he died on Sol 6 or mere days before the ‘rescue’ mission arrived, but oh well, we’re here anyway, might as well run some tests.” Pepper nodded along with Fury’s words. It wasn’t her favourite part of the job but she usually assigned an intern or two, generally the more incompetent ones that had assumed working at NASA would be wall to wall cool space travel and not a bureaucracy like any other office filled with filing and photo-copying, to flit through the various sites of conspiracy theorists and keep an eye on any potential media storm. It was a part of what made her so good at her job.

She liked to be prepared, liked to stay as far ahead of the pack as she possible could, and she would use each and every resource available to her, and as she paced the office, writing as fast as she could to keep up with the thoughts she was having, Pepper was reminded of why. The stutter of her heart, the weakness in her knees, the tears that stung her eyes left her feeling lost, awash on a sea of grief and anger and hopelessness. Her notes gave her order, gave her purpose, made her feel whole again.

“We have a day. We have less than a day before we have to tell the world we were wrong.” Pepper paced, steps silent despite her impressive heels, strides eating up the width of Rhodey’s office as she walked, talking to herself more than anything. “We need to announce that we left a man on Mars. We need to prepare for the fallout of that.” Pepper grimaced, shaking her head. “I don’t think, in the history of the agency, that someone has had to make a statement as monumental as that. Deaths, those we’ve had. Accomplishments, had those. But admitting that we left a man alone on another planet? We need to prepare a variety of statements—”

“Walk me through it again,” Fury interrupted, Pepper barely noticing as she made notes to herself, plucking a block of post-its off Fury’s desk and using them as tabs, pen hovering above the page as she waited for Rhodey to speak. Facts were important, facts were the foundation of how she could present this to the press. If she could control the way the story was released, she could control the spin.

“Again?” Rhodey couldn’t help but sigh.

“Yes, again. Step by step. Fucking convince me, Rhodey. Make me believe it. Persuade me to go stand in front of the press and release this.”
Out of the corner of his eye, Rhodey noticed Tony’s head lifting from where he was slumped on the couch, the other man waiting to hear the story again, hoping that if he heard it one more time it would help to make sense of the situation. Rhodey wished him luck with that.

“First,” Rhodey ticked off a finger before pointing to the blown up image he’d tacked onto his wall, “no body. No partially covered body, no dunes, no nothing as far as the eye can see. Second, the solar array is totally wiped clean.” Rhodey held up a hand to forestall Fury’s impending question. “Not windswept, but clean. They practically gleam. Third, both of the rover pop-tents are out and appear to be connected to the Hab, the release of which there is no record of in anyone’s logs. It’s not protocol for them to be released during evac, and Rogers is comprehensive in his logs –there’s no way he’d leave out a detail like that, especially something so atypical. There’s also no reason for the tents to have been attached to the Hab. They’re not designed for it, so it has to be deliberate. Of everyone up there, only Barnes has the knowhow to successfully pull that off and have them work. If it were done pre-evac then Rogers would never have allowed the rovers to be utilised, making them useless. It wouldn’t be safe to be out in them without the tents and yet we know that Romanoff was due to head out on Sol 7.”

“How did this come to light?” Fury butt in.

“Kate Bishop at SatCon. She’s got a good eye; couldn’t help herself from taking a peek at my requested images.” Pepper groaned.

“We’re going to have to frame that differently, otherwise it’s going to look like NASA employees are heartless ghouls checking out dead people on Mars.” She stopped in her pacing in front of Rhodey. “Can she be trusted to keep quiet until an official release?” Pepper asked looking up from her notes, pen still moving as she finished writing whatever thought she’d been part way through as she waited for his answer. Rhodey had long been envious of her ability to multi-task to such a degree.

Even at 6am Pepper Potts was immaculately turned out even while dressed in yesterday’s ensemble – suggesting she’d only recently returned home after an evening of damage control after the memorial - hair and makeup pristine, not a crease or wrinkle marring her ensemble despite the many long hours spent sitting. She lived a job where she might be called in front of a camera at any time and she ensured she put forward the most professional, and somewhat intimidating, appearance from the second she left the house to the time she crossed the threshold once more. She was the single most capable person Rhodey had ever encountered and if he’d had an ounce of intelligence he’d have asked her out years ago.

Too late now, and for the best for all involved.

“So, it’s taken me the last thirty minutes for her to stop crying; you’d think she’d left Barnes there herself. She understands what is at stake, she won’t speak to anyone about it. Nobody but us.”

“She going to be alright?” Pepper’s tone switched instantly from professional to warm and compassionate, her care obviously sincere.

Rhodey nodded. “I think she was more frustrated that she couldn’t stop crying. She should be fine in front of the camera.”

“Where is she now?”

“In the breakroom, with an inhuman amount of coffee. She’s waiting to speak with you if you need to. Or,” he passed over a piece of paper, “this is her contact information.” He’d had to pull her records to get most of it, Kate too wound up to remember her own phone number, alternating
between tears, a shocked stupor, and random cursing. He’d known the feeling; had he not had to meet with Fury, were he not having to figure out all the angles, think three steps ahead of the press and figure out what the hell they were going to do, he’d have joined her on that couch staring into space in horrified silence.

He knew when he finally got a chance to take five minutes to himself, he’d do just that.

Instead, he’d wrapped the blanket that he kept for times when leaving the office wasn’t an option but he still needed sleep, around her slim shoulders, forced a hot cup of maybe-coffee into her hands and promised her he’d be back soon. He hadn’t wanted to leave her on her own, but there was no other choice – she wasn’t prepared to be in a room with Fury and Tony right then.

*Rhodey* didn’t want to be in a room with Tony and Fury.

Lowering himself into Rhodey’s chair, Fury propped his elbows up onto the desk, resting his chin against his laced fingers. “His body could have been buried within minutes of Rogers losing sight of him. The pop-tents might have deployed in the high winds and buffeted into the Hab. A wind of only 30kph would have cleared off the solar array without covering them in sand.”

Rhodey had expected Nick to need further convincing and he’d held back the rest of what he and Kate had found.

“Which is why Kate and I just spent two hours going through *everything* before I called you in. I never said I was done.” From Fury’s raised eyebrow, Rhodey knew the Director had caught the smirk he’d tried to smother. “Item four: Romanoff was the last to use Rover 2. She took it out on Sol 5 to conduct routine tests on the weather stations and returned it to the Hab for recharging so she could go out again on Sol 7. Thirteen hours later, they evacuated.”

Reaching into his jacket, Rhodey pulled out a blown up image with the appropriate log-file stapled to a corner that he handed over to Fury, Pepper stepping closer to peer around his arm.

“That is image 13. It clearly shows Rover 2 facing *away* from the Hab.” The rovers were an elongated trapezoid shape, the cab in the narrow nose with the body of the rovers far wider, making their direction easily identifiable from space. It was undisputable that R2 was not in the position Romanov had left it, and everyone in Rhodey’s office knew she’d never have gotten that wrong.

Just like everything else concerning space travel, proper rover maintenance had been drilled into the AsCans from the moment they started training on them.

Even so, Rhodey hammered his point home.

“The charging port is in the nose. There is simply no way to charge the rover that way – the lead can’t reach even if the rover is backed right up to the Hab, and you can see it’s easily twenty metres away from the canvas.”

“So according to Romanoff’s logs she parked it nose-in on Sol 5.” Fury flipped back the printed log from the image, fingertip tracing over the rover. “It’s been moved,” Fury stated. The leather couch creaked as Tony got to his feet, glacial slow as he unfolded, eyes intent on the page in Fury’s hand.

“And here’s the kicker.” Another image was retrieved from his inner pocket. “This,” he pointed to the left of the image, “is the MDV. It’s been taken apart, systematically. Those edges where the panels have been removed are too even. They run *along* the panel lines, and as Kate so ably put it, those vessels are designed for space travel: they don’t just break apart, so perfectly. Not like this.” Fury ran his fingers over the schematic stapled to the back of the image, flipping between the two as he examined the picture.
“There is no way Rogers or his crew did that without telling us about it. But what’s most interesting in this image is actually over here, on the right.” Tony and Pepper crowded closer, Rhodey directing them to the upper right quadrant of the picture, where the MAV had once stood.

“That’s the fuelling stage of the MAV. Or rather, what is left of it. There is no way that happened pre-evacuation – Wilson would never have allowed endangerment to the MAV, even if Rogers had for some reason ordered it, he’d have defended the MAV with his life. That destruction happened after the MAV left: it survived two years of storms up there alone and Wilson never reported any damage. I pulled up the records of the testing stages of the MAV development: none of the images of the remains of the fueling stage even remotely resemble this.” He tapped the dome of the Hab on the image. “And what I think is missing isn’t accounted for in the surrounding area. Which means there is only one place for it to be. There’s only one reason for that, and we all know it.”

“Fuck.” Tony’s curse was little more than a whisper as he tore the picture from Fury’s hands, retreating back to the couch with it, hunched over it like a predator protecting its kill.

“So the communications array is damaged at best, the dish is gone, the MAV is gone. Is anything working?”

“I’m sure the air conditioning is fully operational.” Rhodey replied, un-cowed in the face of Fury’s disdainful look.

“Funny.”

“Why don’t we just speak to Steve?” Pepper cut in before things could escalate, clicking her pen shut and stepping forward. “Let’s just head to CAPCOM and ask about this. It’d be easy to sort out. Romanoff can confirm how she parked the rover, Wilson can confirm the status of the fuelling stage, and Barton can confirm the data sent by Barnes’ suit systems.”

Rhodey looked at Fury, unwilling to say aloud what he knew Fury was thinking, the thought that Rhodey didn’t totally agree with, practical as it was. As a Director he understood the merits of what he knew Fury’s course of action would be. As a man, he balked at the idea.

“What?” Pepper asked, looking between the two men before glancing over to Tony who had craned his head around, body still facing away from the trio.

“Because if Barnes is alive, we don’t want to alert Ares 3 to that fact.”

That really got Tony’s attention, the picture fluttering to the floor by his feet as he turned to Fury. “You’re seriously going to do that?” Tony accused sharply, voice deceptively, dangerously calm. “You’re going to stand there and tell me, after yesterday, after seeing them, you’re going to lie to them?”

Pepper took an aborted step towards him, folio lowering to her side as she took in the wide-eyed rage on her lover’s face, holding herself in check when he in turn took a step back from her.

“You know as well as I do that they’ve got a long trip.”

“Don’t fucking patronize me, Nick. You’re going to leave the crew thinking they left Barnes dead?”

“What!?” It was Pepper’s turn to look quizzically towards the Director. “Those people are in pain, Nick! They’re blaming themselves…Steve is destroyed.”

“How much better do you think they’ll all be if we tell them he’s alive?” Rhodey asked.
Pepper turned her incredulous gaze on Rhodey. “You agree with this?” She asked, at the same time as Tony demanded ‘You agree with him?’

‘No. No, not really.’ “It’s what has to be done,” he side-stepped. “They could end up killing themselves up there if they don’t have their minds on task.”

“They have another ten months of space travel, Ms Potts. I know to the layman it’s an almost everyday thing, but it’s not. It’s dangerous. Incredibly dangerous. They find out they abandoned their crewmate, on another planet, and they’ll be distracted. Distracted people make mistakes.” Fury’s tone was measured and calm, which only served to anger Tony further.

“Ten months of blaming themselves,” he interjected.

“Ten months with them in more danger than they were on the surface. Ten months with them in more danger than Barnes is now.”

That was the last straw for Tony.

“Do you hear yourself talk? Because when your mouth is moving and words are coming out, it’s really hard to tell if you even know that what you’re saying is complete horseshit. It’s like you’re already practicing for the inevitable questions in the press-room. ‘Hey, everybody, don’t worry that there’s a man alone on another planet, because guess what? He’s actually safer than people that are on the way home, in a perfect space vessel, with enough food to last them all over a year, with Comms, and oh, even if something were to happen, we can actually fly Valkyrie from here. But yeah, Barnes is super safe, don’t worry that we left him there.”

Fury’s gaze was assessing as he crossed his arms, a smirk just tugging at the corner of his mouth. “Stark, if I didn’t know you better, I’d think-”

“You don’t know me better, clearly. You don’t know them better than me. They need to know. I can’t believe this is even a discussion.” He looked to Rhodcy for support, for something.

Thing was, Rhodey really did agree with him. He wanted almost nothing more than to let his people know that Barnes was alive, that their friend was still alive. The only thing he wanted more was to keep them safe and for the moment, keeping them in the dark was keeping them safe.

“Right now there’s only one outcome of telling them,” he tried to choose his words carefully. “They’ll know they abandoned their friend. They’ll know that he doesn’t have enough food to survive. They’ll know that there’s no Comms. They’ll know that he’ll die and they’ll be distracted.”

“Distracted people can make mistakes. Sometimes fatal ones.”

Tony scoffed at Fury’s addition, a harsh sound as he stared at Rhodey. “So you’re, what? Director’s side-dick and you,” he shot at his best friend and turned to his boss. “And you, you’re what? Compartmentalizing?” He spat the word.

“Tony.” Pepper reached out a hand but Tony once more dodged it. Rhodey braced himself for the next round of Tony’s aggression. When it didn’t come, but the thunderous expression on his friend’s face didn’t soften, he tried to explain his position.

“Tony, right now we’ve got nothing good to tell them.” He held a hand up to forestall Tony’s argument that Barnes’ miraculous survival was pretty fucking ‘good’. “We’ve got no rescue plan, no communication, no way of knowing if he’s even still alive because we don’t know when the rover was last moved, that he hasn’t-”
“Snuffed it during the last day or so?”

‘Yes.’

Tony looked at him in silence, rocking back on his heels as he mulled over Rhodey’s words, a twitch of his lips indicating he’d come to his decision.

“What the fuck is wrong with you?” Tony demanded, gesturing between Fury and Rhodey. “I thought soldiers were all about the looking after each other? Leave no man behind and all that jazz.”

“We are,” Rhodey snapped, his own fear and anger over the discovery welling up. He might not completely agree with keeping the team in the dark but he did at least see the need to do so.

Tony’s eyes narrowed. “Right, right. The distraction issue.” He waved their argument away with a flick of his hand, indicating just what he thought of their reasoning.

“If something were to happen to them or to Valkyrie, I would have no justification to Oversight as to why we told them while no plan-”

“Because of course politics are more important than principle.”

“Stark, I don’t think you’re in a position to lecture me on principles.”

“And yet here I am.”

Ever the mediator, Pepper tried to pour oil over troubled waters. If NASA was to survive the shitstorm that was coming, the Administration needed to present a united front.

“Aren’t they already distracted? They think he’s dead. How much worse can it be?”

“What would you rather think, that you left a man’s body behind, or you left the man? To spend the rest of your life telling yourself that at least it was a quick death, or the thought that he suffered for weeks, even months, alone and in pain?”

Rhodey didn’t miss how Tony’s eyes flit to him. They’d been friends since they’d met as freshmen at MIT, and while they’d been of an age, Rhodey had always felt like he was older, a little less naïve, a little less blinkered to the harsh realities of the world, and he’d done everything he could to protect Tony’s innocence, all while knowing one day his friend would have to face them. Rhodey had known that Tony’s split from his father’s company had been about more than just Rhodey’s decision to enter the Air Force and the subsequent risks to his life, but he also wasn’t blind to the truth it was a factor. Rhodey had been Tony’s first real friend, the first person in his life that wasn’t after what the Stark name could do for them, and while Rhodey had come to terms with the idea that out there in the world was a bullet with his name on it, Tony had been tortured at the thought that the name down the side of it would actually be ‘Stark’. Tony had, after Rhodey had gotten out, drunkenly admitted that he had spent more than a few sleepless nights trying to assure himself that if something did happen to Rhodey, that at least it would be quick. Even then Rhodey knew Tony had never been able to make himself believe that ‘at least it was quick’ would really have made himself feel any better.

“The crew deserves to know!” Tony roared.

“To what end?” Fury countered.

“Are you fucking with me?” And there was the aggression. “Everything I do here, everything I do
in this building is to protect them. Great power, great responsibility, isn’t that how it goes? We have the power here, and a fucking responsibility to them. What do we tell them when they get back and find out he was alive but died later? ‘Sorry we kept it from you, but poor Bucky, he shall never be forgotten?’”

“Do you have any idea what telling them at this point would do to them?”

“I know everything, I can’t help it.” Despite the sarcastic comment, Tony’s face displayed no signs of mirth.

“Care to explain the laundry list of mistakes you’ve made then, oh omnipotent one?”

“Fuck you!”

“Enough!” Fury slammed his fist into the desk, Pepper flinching away from the sound. “You need to step away.”

“I’m not going anywhere! Someone needs to drive some sense into your fucking skull.”

“What makes you think I want to hear word one from you?”

A silence fell over the office like a weighted blanket, silencing and smothering as Tony stepped around Rhodey to stand before Fury, a dark force of nature, neither willing nor ready to back down. Rhodey suddenly felt exhausted, all the weight of weeks of 16 hour days, grief, stress, and shitty sleep colliding with the discovery of the horrific truth to pile onto his shoulders. Rhodey turned to focus on the faint shadow of a tree out of the window, dawn just beginning to creep over the horizon, a new day that was going to change their world entirely.

“Stark, we are at phase one. All we know is that he survived the storm. That’s it. Phase two is figuring out if he’s still alive and how to get his ass off that rock and back here. Correct me if I’m wrong,” Fury glowered at Tony, “but phase two isn’t ready yet. We’re dead in the air up there.” Tony snorted, but Fury ignored him. ‘Barnes’ condition, Comms, how to get him back…I got nothing for you. Nothing for them.

“You see the picture I’m painting?”

“It’s a little abstract for me,” Tony retorted with a smirk, though Rhodey could see full well that it was half-hearted, Stark acting up to the role that was expected of him. “Ask Pepper, she knows art.”

“Stark.”

“We have an obligation to the crew.”

“That’s where you’re wrong. I’m not obliged to do anything.”

For a moment, just for the time between one heartbeat and the next, Pepper thought Tony actually was about to throw himself at Nick, could just see the flex of her partner’s hand as it formed a fist. Then the fire in Tony’s eyes banked. His shoulders remained tight, his hand remained clenched, but his weight was no longer balanced on the balls of his feet.

By no means was that a less dangerous situation.

When Tony spoke it was clipped and sharp. “So you what? Want my blessing on this? That what you want? Because you can’t have it.”
Fury leant over the desk, fists pressed onto the splay of pictures across the wood. “Don’t ever presume I need your blessing for anything.”

“So we lie to them? Worrying about the press reaction, about the programme, that’s on you, Nick. I don’t give a shit about that. We’re not discussing parts or robots or bad modern art; they’re people with thoughts and feelings and needs. They’re not just astronauts, Nick! They’re not just a crew, they’re people! I worry about Rogers, Wilson, Barton, Romanoff, and Odinson. I worry about how keeping this from them is going to affect them. How it’s going to affect how they trust the people down here. Nothing else matters.”

“They can’t be right now, they have to be astronauts. In order to survive they need to be the crew.”

Glancing to Fury, Pepper stepped forward, forestalling yet another fruitless round of arguments.

“Couldn’t we talk to Andrew? Get his opinion on how they’d handle the news?” Pepper asked, as she subtly eased herself between the two men, unable to break off their visual pissing-contest but ensuring Tony wouldn’t make a physical break for their boss.

“Garner will be consulted, when we have a plan.”

“So you’ve decided,” Tony’s voice was deceptively soft. “I don’t know why you even bothered bringing me in. I’m not getting a say in this at all, am I?”

“How do you want your ‘no’? Fast or slow?”

“Asshole.”

“Your hurt feelings are on the record.”

Resentment and anger were leaking out around Tony’s edges, the Ares 3 Director holding himself stiff and contained. Rhodey’s eyes slid shut as he waited for the inevitable explosion.

He wasn’t disappointed.

“Jokes on me I guess – I don’t know why I expected anything better from my old man’s best friend.” Tony sounded tired now, as tired as Rhodey felt.

“You looking for absolution, Stark?”

Fury might as well have punched Tony in the face. Rhodey knew the whole story, what was fueling Tony’s rampant desire to reveal to the crew that their friend was alive, whether Tony was conscious of it or not: the deaths of Howard and Maria Stark.

Tony’s relationship with his parents had been complex and tangled at best. Tony had adored his mother, Maria trying her utmost to shield her only child from his father’s demons, the alcoholism and cheating, though her best had not been enough, Tony an intelligent and sensitive child that had seen far more than any child should.

As a result, while his relationship with Maria was caring and built upon a deep love, Tony had difficulty relating to his father, their bond strained and rough for the majority of Tony’s life, the pair never making amends before the Starks lost their lives in a car accident.

Yet, despite the broken relationship that Tony had with Howard, he had spent his adolescence and most of his twenties and thirties desperately trying to live up to the image that he thought his father wanted him to be. A man much like Howard, a womaniser and a drunk, far too brilliant for his own
good, and utterly unable to stop even long after the bottom of a whiskey bottle had stopped making him feel better.

The last time Maria and Howard had departed the Stark family estate in upstate New York, father and son hadn’t been speaking, and Maria, for all her caring attempts, had been unable to get the men to reconcile, Tony aloof and sarcastic, Howard short-tempered and dismissive. While Tony had lovingly kissed his mother’s cheek, inhaling the perfume she always saved for special occasions, he had refused to so much as acknowledge his father was in the room, neither man bidding farewell to each other.

Tony had regretted it every moment since.

One night he’d gotten beyond fucked up, Rhodey unsure what the hell his friend had taken before washing it down with what smelled like most of a distillery, the Stark’s private doctor being summoned by the butler – and hadn’t it taken Rhodey a while to deal with the fact that people even still had butlers – to spare the family name any embarrassment.

Or more embarrassment. Tony had seen to smearing the family name with some gusto.

Once Doctor Yinsen had done his work, hooking Tony up to an eye-watering number of drips and after a staggering amount of blood had been taken for tests, Rhodey had been left to tend to delirious Tony while Yinsen headed to the labs in Stark Tower.

Hours Tony had suffered. Hallucinations plagued the night, the young genius babbling and desperate, incoherent more often than not, but whatever it was he saw in place of the sumptuously decorated bedroom was enough to cause him extreme distress.

Watching Tony’s rock bottom had almost destroyed Rhodey.

He’d been able to piece together fragments, that Tony was relieving that last morning, his subconscious desperately reworking what had happened into what he wished had happened. That father and son had spoken, that instead of regretting never so much as looking in his father’s direction, he’d acknowledged that his emotionally constipated father had done his best, limited as that was, and that in truth, Tony did love his father, complicated as that love was.

The reframing of the past only lasted a short time, Tony’s relief temporary as another wave of whatever the hell he’d taken hit and he was trapped back in the same cycle, hijacked by his own memories and regret.

It had taken thirteen excruciating hours for Yinsen to learn what Tony had been dosed with, some designer drug newly on the market that was already responsible for the deaths of five people. It took him another three to devise an antidote. Two further days were required to fully flush the toxins from Tony’s body and clear his mind. By the time Tony had come back to himself, he had denied any memory of the prior three days.

Rhodey, however, had never forgotten.

Tony would have leapt eagerly upon even a rumour that his parents still lived. To ask him to keep such news from the crew was cruel in the extreme.

But it was for the best.

“What?”

“You think telling them will make you feel better? Feel that guilt that burns in your gut feel better?”
Fury raised a questioning brow. “It won’t.”

“Neither will keeping it from them.”

“Suck it up.”

The sound of Tony’s fist slamming into the wall beside the door was far worse than the silence, the punch into the unforgiving plaster hard enough for even Fury to wince. In the stretch of quiet that followed, Stark’s rigid stance, the tightness in his shoulders, the determined cant of his head were the physical equivalent of a ‘fuck you’ as Tony refused to look at any of them.

And then he was gone, yanking the door open so fast the handle rebounded off the wall, chips of paint fluttering to the carpet, Tony slipping out the door before the door could swing back and hit him in the ass.

Pepper’s jaw worked furiously as she stared Rhodey down. He’d never known how much about his parents Tony might have told her, but Pepper was exceptionally intelligent and had no doubt filled in the blanks herself.

Which meant she wasn’t his number one fan either, right now.

“Fuck!” She span on her heel and grabbed her bag, whipping out a thin laptop before crowding Fury out the way to appropriate Rhodey’s desk, opening her laptop and not looking at either man. Her fingers flew across the keys as she referred to her notes, stabbing hard at the backspace button a few times.

“What’s your take?” Fury asked, uncharacteristically gentle.

“We have less than 20 hours before we’re required to make the photographs public, which coming so soon after the memorial is going to be just perfect. I’ll be preparing a statement to accompany them. We need to be the one making a statement, well in advance of the deadline. A calm and thoughtful one, or we look like assholes.” She glared at the two men as she emphasised the word, before turning back to her laptop.

“Why ‘well in advance’?”

“Those images are timestamped. If we only give a briefing at the eleventh hour, just before we have to release them, then it’ll be jumped on as proof we wanted to hide it. We need to avoid that. At the same time, no matter how hard we try to contain this, it’ll leak eventually, before the deadline. If that happens before we release our statement we also look like we’re hiding something. Never pick a fight with someone who buys ink by the barrel. If you want me to have a chance in controlling the story, we do this my way.” While her words were professional, Pepper’s tone was not, her disappointment in her friends clear.

“Gotta love that spin,” Rhodey muttered.

“This is wrong,” she replied, already typing furiously, her displeasure clear. “They’ll never trust him again if we keep this from them. I can’t believe you’re asking this of him.”

“I think we’ve got enough shit hitting the fan to deal with down here before I worry about them. Are you going to be able to contain this until the conference?”

“Do I tell you how to do your job?” Pepper asked sharply. “Of course I can keep it contained. For now. The bigger issue is dealing with the shit-storm coming so close after the memorial. Two beautiful mourners,” she pointed at Fury, “and we both know that plays a part in the press interest. If
the entire Barnes family was less photogenic, they’d care less. If Barnes’ father hadn’t died when his children were so young, if Bucky wasn’t the man he was – is, the press would care a whole hell of a lot less. It’s shitty and wrong, but we all know that it’s true. We’ve all played this game long enough to know that even I can’t predict what’s going to happen after you make the announcement other than ‘shitstorm’.

“You’re going to stand up, a day after his memorial, and say ‘whoops, our bad, he’s not actually dead, we just abandoned him alone on another planet, we can’t talk to him and he’ll starve to death if we can’t rescue him. But hey, silver lining, at least we haven’t marred out 15 year record of no NASA deaths. Yet.’” Pepper sat back in Rhodsey’s chair, looking all too comfortable behind his desk.

“I don’t think that’s quite what I’m going to say.”

“Whatever you say, Nick, that’s how people are going to take it. I guarantee it.”

Everyone in the room knew she was right.

“Where do we go from here?” Fury turned to Rhodsey.

“Step one has to be communication. Even if we didn’t have Rogers’ logs, we’d know he has no form of communication. The dish is gone and the antennae array nearly killed him. Once we can talk to him, we can start coming up with plans. Barnes is a crazy son of a bitch but he’s smart as hell and he’s survived this long without us even knowing it. We’re gonna need his input to know how to get him home.”

“Alright. From now you have one job; letting us talk to Barnes and vice versa. I don’t care how. Morse code. Pictograms. Fucking smoke signals, but get me something. You take anyone you need, anything you need, from any department. I’ll approve overtime. Get it done. We’re dead in the air up there.”

“Ms Potts, I’m trusting you to ensure this doesn’t leak.” Pepper nodded to show she understood though she never looked up from her work.

“I have to go to New York. I’ll be back tonight.”

“Why are you going to New York?”

“Because that’s where Barnes’ mother and sister live.”

“Not every day you get to tell someone their son is alive,” Pepper brightened, fingers still unerringly flying over the keys while she turned a winning smile at the Director.

“Yeah. He’s alive. And if my math is good he’s screwed.” The smile fell as Pepper took Barnes’ situation through to its end. “Long before we’re able to help him, he’s going to starve to death. What I’m about to tell them is worse than when I told them he was dead. At least then we thought it was quick. Remind me how this will be good news.” When neither Pepper nor Rhodsey were able to voice any help, Fury swung a satchel over his head, stuffing the pictures he still held inside, collecting the other accoutrement Rhodsey had brought with him as evidence as he passed the desk, the folders and files disappearing within the bag.

Rhodsey had heard rumours as to how it all gone down when Fury had had to make his first trip out to Brooklyn. Heard how Winifred had been inconsolable, throwing off any comfort that Becca had tried to offer, tears streaming down her cheeks while she’d screamed her denials. In the end she’d had to be sedated, that much Rhodsey knew to be true and he knew full well how that would have
gone. His own mother had seemed unaware of the coolness of the alcohol swab across her arm, the sharp prick of the needle, the pressure of the bandage, all the while staring at the front door as though any moment Jeanette would walk in and the nightmare would end.

To find Fury once more on her doorstep…Rhodey couldn’t imagine what news would do to the broken woman he’d seen at the memorial. Couldn’t imagine how Becca, wounded, and lost, and so incredibly angry as she was, was going to cope. He didn’t envy Fury his task.

“I also have to call the White House. President Ellis has enough problems without getting blindsided with this.” Fury swept out of the room, his coat trailing behind him. Rhodey gave a soft smile to Pepper and headed out himself. He passed Kate in the hallways, the blanket wrapped around her shoulders to billow out behind her like she was some superhero in a cape. He didn’t bother to stop to make the introductions between Kate and Pepper, or to ask why she’d returned to the office. He didn’t have the time.

He had a team to compile.

“Nothing. That’s what you’re telling me. That 20 of the smartest people in the world have managed to come up with nothing after twelve hours. We have a multi-billion dollar communications network at our disposal and we can’t talk to one man.”

The two young scientists standing in front of Rhodey’s desk glanced nervously at each other.

“It’s one man on another planet, so it’s not exactly,” the young woman stuttered to a stop and tried again on another tack.

“It’s not that we have nothing, per se.” She hastily tacked on a ‘sir,’ with a wince. “We have plenty of-” Jemma Simmons started only to be interrupted by Leo Fitz.

“It’s that he has no radio. We can yell at him, but without the radio…” He shrugged helplessly.

“He has a radio, Fitz. Honestly, imagine him not having a radio. It’s the dish that’s the problem. He needs the dish, otherwise the signal has to be strong-”

“Like reaching Pluto kind of strong. Which, when you think about it, should never have been demoted. Really, I mean, there it is out there in the dark and the cold, all alone and then bam, it’s not even a planet anymore. That’s not right.” Fitz received a sharp elbow to the side for his flippant comment.

“What about the satellites?”

“We thought of that, Sir,” Simmons replied, “they’re closer but the math doesn’t work out. Even SuperSurveyor 3, which has the strongest transmitter, would need to 14 times stronger-”

“17 times,” Fitz interjected.

“14 times,” Simmons said firmly.

“17 times. See that’s the problem with specializing in biology. Your maths suffer. If you’d only
listened to me and minored in engineering like I told you, this wouldn’t be an issue, but no, you wanted to study messy, sloppy, biology. Sure, there was the physics and the astronomy, but clearly they weren’t enough to make up for the biology. And this is the result - why do you always forget the amperage minimum for the-

“Stop.” Rhodey ordered. “I get it.”

“Sorry,” the pair said together, clearly used to their double act being reined in. Not well enough if Rhodey was to judge.

“I’ve had two hours sleep over the last three days. The man whose funeral I attended yesterday is alive. Only he’s on another planet. Alone. He’s going to starve to death. He may be dying right now while I listen to you. I don’t have the time, the patience, or even the fucking inclination to deal with whatever this,” he gestured between the two, “is.”

“Sorry,” they repeated. Were it any other day, any other situation, Rhodey might have been quietly amused at their twin expressions of repentance, no doubt perfected over their years together.

But it wasn’t any other day.

“One storm.”

Fitz-Simmons shared a look, silently arguing over who had to ask, Simmons raising an eyebrow and jerking her head towards Rhodey, Fitz shaking his head violently in turn. He held up a fist.

“Rochambeau,” Fitz whispered.

“Not now,” hissed Simmons, but she lifted her own hand as though led by habit, and curled it into a fist.

“Ro-cham-beau.”

“Ha!” Fitz dropped his still-clenched fist on top of Simmons’ ‘scissors’ with a note of triumph. With a sour expression which she tried to paste a smile over, Simmons turned back to Rhodey, eyes widening at his expression.

“One storm, Sir?”

“It was one storm. A bad one, but just a storm. How did it wipe out an entire communication network?”

“Human error,” Fitz said bluntly.

Rhodey raised his eyebrows.

“Not your error, of course. Well, maybe it was, I don’t know who was in the meetings about stuff like that, so it might have been-” Rhodey was grateful when Simmons’ elbow, pointy and aimed with deadly precision as it was, was deployed, but no matter how painful it might have been, it wasn’t nearly as effective as she’d no doubt hoped and instead she turned enormous hazel eyes to him, begging him to make her friend stop.

“Human error, how?”

“Failure of imagination,” Simmons answered, not allowing Fitz the opportunity to get started again, perhaps mistakenly believing that she’d be less insulting.
“We never thought that someone would be up there without a MAV. I mean, it’s ridiculous, when you think about it, really. I mean, who’d be up there without a MAV? Madness!” She caught sight of Rhodey’s face and tried to get herself back on track. “Any storm that might damage the MAV and its Comms systems would pull an abort. Kind of like it did. So that part of the plan worked perfectly.”

“So you’re saying when they left, they took every Comms option with them.”

“Exactly,” Simmons said sadly.

“What about the Contingency Communication Strategy?”

“Errr.”

“We don’t have a CCS?”

“We do, of course we do,” Simmons babbled. “That is to say, we did.”

“Then what’s the issue?”

“It sort of burned up in atmo.”

“That was in the MAV too.” It wasn’t a question.

“So we originally had five Comms systems and four of them required the MAV, but in the space of ten minutes we lost all of them?”

“Three,” corrected Fitz. Rhodey really had to hold himself back from thinking of him as Tony-Two because the world, and he, was not ready for that shit. Throw in a cup more ego and a bank balance with a lot more zeros, and a healthy dash of daddy issues and the young man was a goatee away from driving Rhodey bat-shit.

“Four,” Simmons reiterated.

“No, it’s three.” He held up three fingers as though that somehow was the end of it. “See? Three.”

“And you say I can’t do maths?! Honestly Fitz! This time you’re not counting the main system. The MAV has one main Comms system and three backups. So four.” She held up four fingers of her own.

Rhodey had to resist the urge to show them one of his. He was beginning to suspect that the scientists were part of Coulson’s team. The Deputy-Director for Ares 3 seemed to have an unlimited stream of patience. No matter what anyone who’d had to interact with Tony might think, Rhodey did not. At least not with less than 8 hours before the press was going to find out that Barnes was stuck on Mars and they were still no closer to communicating with their lost astronaut than if they climbed a mountain and fucking yelled at him.

“Four in total and we lost them all.” Rhodey’s tone was dry.

“And the dish was destroyed when it skewered Barnes—” Simmons elbowed Fitz. Hard. “Really, Fitz!”

“I’m just trying to say that if the dish was intact then we’d have a shot.”

“What he means to say is that when Barnes was injured,” she stressed the word, glowering at Fitz,
“the dish was likely completely destroyed.”

“I know what he means. What I don’t know is what you’re going to be doing about getting communication back.” Rhodey stared at the dark wall behind the pair, rubbing at his temples; his eyes felt like sandpaper and his head was throbbing.

“But they took the MAV with them and after they returned to Valkyrie, it, you know, boom” he mimed the MAV falling back and burning up. Rhodey upgraded his headache to pounding.

“I think he knows that, Fitz.”

“But he’s an engineer right? So he could – uh – build a dish? Isn’t that what’s on the pictures? That’s he’s been scavenging metal from the MDV and MAV stand?”

“Would a dish made from spare parts be able to pick up a signal?” Simmons asked, both she and Fitz turning to Rhodey.

“You’re asking me?”

Both continued just to stare at him. Was there a stage beyond pounding or would Rhodey’s head just explode, right there in a conference room, brains splattered across stale donuts and shittier coffee? He longed for the madness of meeting Bishop. At least that’d involved a burger.

“Find out. I don’t care what you come up with, just come up with something. Fast. We need to be able to tell the press, with a straight fucking face, that we have some sort of plan to get communication back, at the very least, or they’ll eat us alive.” Rhodey pushed himself out of the chair. He had to find aspirin, or Tylenol or a mallet or something.

“That’s not how it works.”

“Excuse me?” Rhodey’s tone clearly resonated in some small part of the primal lizard brain hiding out in the brilliant minds of the two scientists, both backing away ever so slightly from him as he turned slowly back towards him, Fitz’s mouth still shaping words that his voice failed.

“We need time…we have to make the calculations-”

“Not every plan has to be 100% thought through at this stage. Just give me something. Something we can build on.”

“Everything has to be just so because of the danger-” Whatever else one could say about the kid, he had a streak of bravery that apparently was triggered by primal terror. Any other day and Rhodey would have appreciated that. It still wasn’t that day. Sadly, it also wasn’t the day Rhodey would appreciate bravery.

“Yes, Doctor Fitz, I’m aware of that.”

“He didn’t mean to imply you didn’t, Sir,” Simmons babbled, jabbing Fitz in the side.

“That’s going to take a while,” Fitz offered hesitantly, hands held up beseechingly.

“You have an hour.”

“I thought you’d say that.”
The hallway was almost as packed as the Press Room no doubt was and it took some shoving for Doctor Andrew Garner, psychologist for the Ares Program, to reach Fury’s side, Rhodey following in his wake.

“You sure you want me in there with you?”

“What’s up, Doc? Nervous to dip a toe into the piranha tank?”

“Those,” Garner thumbed over his shoulder at the noise coming from inside the room, the assembled press corps loudly wondering about the summons, “aren’t the wabbits I usually hunt, Nick.”

“Come in, come in, said the spider to the fly.”

Fury reached into an internal pocket in his coat and pulled out a silver flask. “Dutch courage?” Andrew shook his head.

“Sure? It’s the same vintage as the bottle you and Mel stole before you went streaki-”

“I’m on duty.”

“You were then too, if memory serves.”

“Let’s move on.” With a shrug, Fury took a swig and slipped the flask away again.

“I’m going to get slammed with questions about how this is going to be affecting Barnes, and I want you—”

“To hand off to and divert attention onto after you make the biggest announcement any Director of this agency has ever had to make. How sweet of you, Nick. I didn’t know you cared.”

“You never thanked me for that rice steamer I got you for your wedding. Now we’re even.”

“You got us a bread maker.”

“Really?”

“Yes, really. Who needs a rice steamer? Double the amount water to rice and cook.”

“You sure it was a bread maker?”

“Are we really discussing this now?” Rhodey asked. Had he really thought that acquiescing to Fury’s summons to the Press Room would be a relief from the Fitz-Simmons show?

“Garner, what’s your opinion on the situation?”

Garner looked far too fascinated for Rhodey’s tastes.

“Nobody has ever been able to study anything like this. Isolation, yes, but always in the knowledge that someone would return or there was the possibility for rescue. In the trials we ran in Hawaii and again in Goblin Valley we never left one person alone, it was always a minimum of four people. But this,” he gestured to the folder in Fury’s hands, “this is unprecedented.”

“Fancy that,” Tony mumbled as he pushed his way to their group, not subtle in the way he eyed Fury and moved to stand beside Rhodey, arms crossed, brow creased, letting Rhodey know in
uncertain terms that he wasn’t ready to forgive his friend yet for his perceived betrayal but that he was currently the lesser of two evils. “That’s your professional opinion? That nobody knows?”

“Stark.”

“He’s alone,” Garner began again, “and the human mind is a powerful thing, especially when left to its own devices, isolated, and assuming everyone has deserted them.”

“Everyone did.”

“Even the year long trials we had on ISS there was never one astronaut alone.”

“We need something to tell the press. What is his mental state likely to be?” Fury asked, ignoring Tony.

“I have no way of determining that.”

“Try.”

“It depends.”

“Try harder.”

“I’ve had thirty minutes with this, Nick. You’ve had a day. If you wanted me on this you should have come to me sooner.”

“Thank you!” Tony burst out. “See Nick, Headshrinker here gets it.”

“That’s the one ‘I told you so’ that you get Stark.”

“But I did, I did tell you so.”

“Reality can become skewed,” Garner interrupted before Tony could kick off. “Subjective. And in situations like this it can happen very quickly. He’s more than just alone, he’s the only person to ever be alone on a planet. A planet utterly incapable of sustaining human life. He’s living under the knowledge that at any second the Hab could breach and he could die. That the machines that keep him alive could malfunction and he could die. That he will run out of food and he will die. Add in the variables of illness or infection from the accident…” Garner sighed and shook his head. “The man up there may not be Bucky Barnes anymore.”

“Way to earn that pay-check, Doc.”

“May?”

“Melinda’s here?” Garner turned to scan the crowd, seeking out his ex-wife, turning a confused expression back to Fury when he couldn’t find her.

“You said ‘may not be’. There’s a chance he will be?” Fury asked. Tony’s snort of amusement at how Garner blushed at his misunderstanding had Rhodey smirking at the ground. Garner and May might have divorced years previously but they weren’t fooling anyone that they’d recently reconnected, and with them working different divisions, Melinda working with Bruce Banner at JPL, that meant double the gossip from their colleagues. Nothing moved faster through the NASA buildings than scuttlebutt.

Coughing to cover his embarrassment, Garner held up the file in his hand. “Barnes, like the majority of the astronauts who pass through AsCan training to get selected for a crew is easy-going, mentally
resilient, and has excellent social skills. These are the results of Barnes’ isolation study. Of all the AsCans he came through it the best.”

“I’ve seen the video, he was blathering about the Jetsons and flying cars,” Tony answered.

“He was engaged in his subject, talking about a passion, asking questions, waiting for answers, and alert. Perfectly normal.”

“That’s normal? What would be not normal?”

“You see Rumlow’s isolation debrief video?”

“With the cleansing and rebirth and something about a new world order?”

Garner hummed an affirmation, eyebrows raised. “That’s the not-normal end of the scale.”

“I’m just saying I’d go crazy up there alone.”

“Because you need the constant admiration and attention of others for validation and acceptance.”

Rhodey hid his smirk behind his hand. Fury didn’t bother.

“Barnes, however, doesn’t.”

“So he’s not up there talking to a volleyball is what you’re saying?” Tony asked, eyes narrow.

“Oh, hey, there’s Pepper.” Rhodey had never been so glad to see Pepper, Helen Cho at her side, the sea of bodies parting to create a path to their side, the crowd understanding full well she had no intention of stopping or moving around them. Which was good, because Rhodey recognised the expression on her face. He should, it’d been aimed at him and Tony more than a few times over the years. It was the one she levelled at people when she had no problem with stabbing her Pradas through the foot of any unsuspecting idiot stupid enough to get in her way.

“Doctor Cho.” Andrew nodded to the young physician with a small smile, abortingly reaching out to relieve her of the armful of files she carried.

“Doctor Garner.” Helen accepted Andrew’s help in manoeuvring the files into a more manageable position but didn’t allow him to take any.

“Ms Potts,” Garner winked at Tony as he raised Pepper’s offered hand to his lips, gently kissing the back.

“Doctor Garner,” Pepper sounded just a little more charmed than Rhodey suspected she’d meant to, her eyes sliding to Fury and back to Garner. “I assume your presence means that Nick finally saw sense?”

“If you mean did he see the value in bringing me in so he could throw me to the wolves, yes. We were just discussing Barnes’ potential mental state.”

“Which might be?”

Garner shrugged, sucking his lips against his teeth. “He could be the man he was or he could be unrecognisable. He could be anywhere in-between.”

“What are we looking at?” asked Fury. When Garner began to demur, the Director waved away his objections. “Ballpark it.”
“Issues could include anxiety, depression, and psychosis, psychosomatic symptoms-”

“Like what?” Rhodey interrupted.

Cho fielded that question. “Phantom pains or disorders which would only be exacerbated by the stress and anxiety of his predicament.” She shrugged, almost losing control of the files once more. “He could be perfectly healthy but his mind convinces him that he’s sick and he’ll become sick.”

“Predicament, is that what we’re calling it now?”

“Absolutely not,” Pepper forbade. “Predicament isn’t quite as bad as mishap, and no doubt we’ll be getting more than a few questions about the validity of the Mishap Response Team’s findings.” She tugged Fury’s folder from his hand and flipped it open, a pen appearing as if by magic as she read through his prepared statement. She knew him all too well and was sure that the statement they’d worked on together would have been further amended by the Director after her input. “Nobody is to say anything that I haven’t approved.” The pen scratched out something, Pepper scowling.

“Then we have a problem,” Garner admitted. “I only learned about this half an hour ago.”

“Walk me through it,” Pepper didn’t lift her gaze from the speech in front of her, pen twirling in a ‘come on’ gesture.

“In the research my team and I have conducted since the Ares Program began, one thing has been increasingly clear – being able to see Earth is paramount to mental health out there. During the times of the mission that the crew could no longer see Earth, there were increased reports of feeling isolated, homesick, even worries of suicidal and psychotic thoughts. Mars entrances us, every one of us involved in Ares, but it isn’t home. While Earth, while their home, was no longer visible, the crew still had contact with Earth and knew that it would be a relatively short time again until they’d be able to see their home planet again helped alleviate feelings of hopelessness. Barnes has none of that. He can’t see Earth. He can’t speak to Earth. He has no way of knowing if he’ll ever see it again, let alone return.”

“Aren’t you fun,” Tony muttered.

“No mentioning of rescues or possible rescues at this time please, Andrew, not until we have a better idea of the situation. Certainly no suggesting that he might never come home. And if you use the words suicide or psychotic I will skin you alive. I want you to focus on the positives. Bucky’s strength, his resilience.”

“So we can’t talk about a rescue but we also can’t say he’ll die there.”

“Welcome to my daily tap-dance.” Another sentence got scratched through.

“Director Fury.”

Tony’s head snapped to the side.

"Really? We have to do this with him?” Approaching the group was the Director of AsCan training, Colonel Phillips decked out in his full uniform, cover under one arm.

"Whatever your baggage is, Stark, stow it, or I will."

“He does realise I’m not my dad, right? Because I worry that dementia has set in,” Tony grumbled, crossing his arms.
“He trained Barnes, he needs to be here,” Pepper stated. “We’re going to get a lot of questions over how he survived and what training he has to continue to do so. Can you answer those?”

“Of course I can! I know the survival training my AsCans go through.”

“He knows it better.”

"But-!"

“Daddy issues, Mr Stark?” Garner asked as Tony pulled himself up to his full height, back ramrod straight.

"Hey, ‘Legends of the Cryptkeeper’ over there-"

"Can hear you just fine, Anthony. So much like your father.”

"Oh, it begins," Tony ground, out through gritted teeth, as behind him Pepper opened the door.

“First, I’d like to take a moment to thank you all for being here. I know this conference was last minute, and you’ve been waiting for some times now, so if you’ll all take your seats, I’ll begin.”

“What’s this about, Pepper?” The reporter for the Tribune asked. “Has something happened to the Valkyrie?” Rhodey smothered a groan; maybe it hadn’t been such a good idea for Fury to traipse Tony, Cho, Garner, and himself in front of the Press. Rarely were so many of the directors amassed for a mere briefing – Nick hadn’t even brought them all together when he’d announced Barnes’ death, preferring instead to face the press alone – and in combination with the early hour and unscheduled summons, well, the men and women whispering to one another as they jockeyed for the best seats – assigned seating seemed to have fallen by the wayside – weren’t journalists for nothing. They could smell blood in the water.

“Take your seat, please, Jessica” Pepper replied with a tight smile. Sometimes she felt her job was akin to a kindergarten teacher. Living with, and loving, Tony Stark had allowed her to truly hone all the tools she needed to deal with children and the people in this room - constantly having to corral over-enthusiastic, curious people who wanted to do nothing but get just what they wanted, yelling and impatient and entirely too smart. Gossip spread faster in this room than between fish-wives talking over their fences. Which was why she’d called the corps in hours early, her most trusted assistant and three guards – none of whom knew the reason for the press conference because while Pepper was trusting, she wasn’t stupid - keeping everyone contained. She knew how the system worked, she knew that more than a few people in this room had their spies within the agency and with word of Barnes’ survival spreading as more and more departments had had to be consulted, it was only a matter of time before someone made a call to their favourite reporter. Or a less-than-virtuous journalist discovered who had student loans – almost everybody – or sick relatives or delusions of grandeur. Sure, they’d be fired the second Pepper could prove who it was – and she would – what with HR taking an extremely dim view of NDAs being violated but by then the damage would have been done and instead of being a step ahead of the press, NASA would be running a mile behind.

Better to contain the press, literally, keep them cut off from pesky editors or the latest scuttlebutt.
That did mean that the journalists that sat watching her intently had been cooped up in the Press Room for almost two hours. Even with coffee and donuts provided, they’d be more than just ravenously curious. They’d be well aware that the last time they’d been called in in such a manner was for the announcement of Barnes’ death.

“I know you’re all wondering why you’re here-”

“Great bone structure?” Jessica Jones called out.

Pepper sighed and looked down to her notes, waving a hand for silence once more, regaining her concentration. She had the prepared release and that was what she was going to do; she’d planned the work, so all that was left was to work the plan. It took the room a couple minutes to settle down, the reporters incredibly curious about the last minute conference and knowing that likely the information about to be released was going to be juicy. Standing at the podium Pepper heard more than one person mutter that they hoped there hadn’t been another death. She’d purposely worn white so as to not give a funereal air to proceedings.

“I know you’re all wondering why you’re here, but you’ll have to permit a little leeway in the cloak and dagger routine. This is a seminal moment in NASA’s history. Spanning over 75 years this great agency’s history has been marked, and defined, by its extraordinary successes and its tragic failures as it pursues what it was chartered and founded to do: to explore and discover our universe on behalf of mankind. In both contexts there has been great debate and discussion going forward into the agency’s future, and I expect that today will be no different, another defining moment that will test our strength and our resolve.

“Four days ago the final report from the investigation undertaken by Doctor Bobbi Morse, Director of Life Sciences at the Johnson Space Center, into the death of Ares 3 crew member James Buchanan Barnes was released to the media.

“While NASA had been unable to determine positively the cause of death it was established that it was probable that loss of consciousness would have occurred within seconds of the antennae array piercing Barnes’ suit, and that death would have occurred shortly after due to decompression.”

“You called us here in the middle of the fucking night to tell us you know how Barnes died? Seriously?” Jessica yelled out, her disgusted disbelief more than evident. It was hard for Rhodey to determine if Jones’ attitude was because she’d had to leave a date, rolled out of bed, or picked herself off a bar floor in order to get to work. From what he could tell, her jeans and leather jacket combination was her only outfit.

As the reporters all began to call out again, Pepper looked more like a High School principal calling for order from rowdy students than a Media Director. Rhodey had a fleeting thought that at any second she was going to have to resort to clapping her hands to get them under control, but of course she didn’t have to; a woman who could live with Tony for years and only ever love him more could more than ably train a room of rabid reporters to bend to her will.

“I will not be taking questions at this time. Any that you have at the end of this announcement can be asked at the Q&A session that will occur in an hour’s time. I’ll now be yielding the microphone to Director Fury.” The room filled with a cacophony of whispers and questions that they knew would go unanswered, instantly quieting when Fury stepped up to the podium, Pepper remaining by his side.

“It’s safe to say that if you want to surprise me, you’d have to sleep with one eye open. Yesterday, for the first time in my life, I was surprised. NASA received a series of images from one of the satellites currently orbiting Mars. Shortly after, Kate Bishop, our lead Satellite Communications
Engineer, made a discovery. She then contacted Director Rhodes, and together they determined the validity of the discovery before coming to me.

“As of this morning, the status of one of the Ares 3 astronauts has been changed: James Buchanan Barnes is alive.”

For five seconds every reporter in the room stared at Fury in silent shock, jaws lax and eyes wide.

And then the room exploded with noise.

Halfway around the world, in a too-crowded conference room the King rubbed his thumb along the thick ring on his left hand as he held up his other hand for silence from the man opposite, eyes trained on the large television bolted to the wall behind the speaker. He held his hand out to the woman standing behind him, a sleek remote control being slid into his grasp in seconds, and with the press of a few buttons, the smooth, slightly breathless voice of the woman on screen filled the room.

The reporter repeated the words the King had been half convinced that he’d imagined reading from the banner beneath the image.

“Barnes is alive,” he murmured, a small smile stretching his lips. “The living are not done with him yet.”

“In the time since the discovery that Barnes is alive, there have been an increasing number of queries into how we here at NASA could have come to the incorrect conclusion that Barnes died. Given the events that transpired during the evacuation, NASA personnel were not the only ones to review what happened. In no way were we reluctant to seek external assistance. The findings of both the internal Accident Report Task Force and the external review panel were that there was no possibility of Barnes surviving the antennae strike. Today we will be releasing the full findings of both of these panels, along with the transcript of the operational recorder tape containing the internal communications among the members of the Ares 3 crew immediately prior and following the incident. Transparency in this situation is our goal, we don’t wish for anyone to believe that in any way we are trying to hide anything; working off of the information that we had, nobody could anticipate that Barnes could have survived. While we have been running simulations of the accident based off of weather data and the reports of the other crew members, we have yet to determine a set of variables that would have resulted in Barnes’ survival. Therefore, it is possible that until such time as we are able to establish communications with the Hab, we won’t yet know how he survived.

“At this time I would like to stress, once again, that the Ares 3 crew members followed protocol perfectly, and they are in no way, shape, or form, responsible for Barnes’ situation. Like us, they had no way of knowing that Barnes was alive – we have previously released the data that Doctor Barton received from Barnes’ medical monitors, as well as the data that Romanoff received from the suit computers. Commander Rogers conducted a thorough search for Barnes, risking his own life in the process and was unable to determine where he’d fallen. Major Wilson only began lift-off procedures when it was obvious that the whole crew would be lost if the MAV didn’t not leave immediately.”

Pepper gestured to the gentleman at her side. “Today Doctor Jason Wilkes, senior Aerospace Engineer with more than 15 years’ experience in NASA communications will be taking questions concerning our efforts to re-establish communications with the Hab and Barnes.” Pepper yielded the microphone to Wilkes, the man introducing himself and taking his first question, his deep voice quiet and calm.

“I’m sick of press conferences every day,” Rhodey complained to the engineer beside him, leaning his head back against the wall to ease what he feared was a now permanent crick in his neck from
sleeping on the couch in his office. He’d thanked his lucky stars he’d never gotten the dog he’d spent so many years contemplating – the poor thing would have starved to death by now. His beloved plants however…much as he could barely remember what his house looked like by now, he wasn’t looking forward to walking in the front door to find mass botanical homicide.

“I’m sick of giving them every hour,” Pepper countered, voice sharp as she slid in next to him, one hand rubbing at her temple. If Rhodey wasn’t going home, Pepper was barely leaving this room, or the closet that connected to it that was laughingly referred to as an office. It was hardly large enough for a chair and a desk, and was generally earmarked for a lowly intern in Pepper’s department, Pepper’s actual office was several floors above, but since the announcement, Rhodey had never once been able to contact his friend anywhere but in the press rooms. He was beginning to wonder exactly how Pepper managed to look so very magazine cover ready on what was probably about a total of five hours sleep over the last week and a half.

He was also deeply envious of exactly how many outfits she seemingly had stashed around the building. Maybe she had interns that actually took out her dry-cleaning or picked up clothes from home, or hell just went plain crazy on one of Tony’s credit cards every few days. He’d tried asking once for a passing intern to take his suit out when he’d gotten a last minute warning he was to attend a meeting with Fury and President Ellis that he was completely unprepared for, dressed in his workout clothes as he was, out of desperation for something clean. He’d been threatened with a sexual harassment suit. And received a tepid coffee to the face. Which had, ironically, only made the dry-cleaning even more of a priority.

He’d made the meeting by the skin of his teeth in one of Coulson’s spare suits and tried not to fidget with the cuffs or the way the pants rode halfway up his calf when he sat, glad that the good three inches of shin he was baring to the room at large, and the leader of the free world, were hidden beneath the table. Never again.

“You win,” he mumbled, eyeing the door as even more people tried to force their way into the room in direct contravention of the laws of physics. He and Pepper were stood next to each other at the back of the press room between a crush of their colleagues, almost every department head crammed in the back of the room with the press laid out before them, and ever more Deputy-Directors, executives and assorted scientists trying to slink in to fill any gaps left as the Q&A continued.

It suggested that NASA was less the world’s most pre-eminent space agency and more a three ring circus acting out a clown car caper. All they needed was their ring master, billowing coat, whip, and all.

“You’ve been doing well,” Pepper mentioned as she watched Wilkes handle the Press. The man was charming, with his easy smile and passionate attitude – he was a wise choice to put behind the podium for more than just his scientific expertise. To be in a room with Doctor Wilkes was to fall more than a little in love.

Rhodey hadn’t doubted it: Kate, once she’d overcome her horror at her discovery, had risen to the challenge. Rhodey recognised in her a young woman who had fought all her life to get what she wanted, who had, despite what public perception might be of her moneyed roots, had to work hard to shed the connotations of her name. It had sharpened her, what could, or even should, have ground her to dust, had honed her edges to near perfection.

The Press corps was hardly the first room full of intimidating people she’d had to confront. It Rhodey was any judge, Kate had been having a ball when she’d given her statements.
Before he could respond, a hush fell over the staff closest to the door, a ripple of quiet that spread slowly but surely.

The ringmaster had arrived.

Fury stalked in and went straight to the podium, Wilkes breaking off mid-way through his response to a question as to the agency’s progress with communicating with Barnes, with a succinct “Director Fury has more information on that,” before stepping aside. Fury didn’t bother with thanking Wilkes or even acknowledging his presence, as though the other man were invisible. Gripping the sides of the podium, Fury addressed the crowd.

“In the nine days since it was announced that James Barnes survived the storm that we believed had killed him, we have received a massive show of support from the public, thanks in part to the men and women in this room. I shall be using that as shamelessly as I can as we work to rectify this situation.”

Those of the Press not terrified of the man broke into shy smiles. Fury didn’t.

“Yesterday, at our request, the entire SETI network, from the Allen Telescope Array to the Arecibo Observatory, to men and women in their backyards with a SETI Net station, focused their attention on Mars, hoping to catch even the weakest of signals that Barnes might have been transmitting. However, it would appear that Barnes was not attempting to communicate. As disappointing as that is, that co-operation and the strength of the public support and feeling is promising. We here at NASA are aware that it will not be us alone helping to get our man home. We may need to call on the public throughout our efforts and people’s responses have not gone unnoticed or unappreciated.”

“The public is engaged, and we are working around the clock to keep everyone informed. WHIH,” he pointed to Christine Everhart, the reporter from the network, “has dedicated a half-hour segment daily to the Barnes Report. Our Media Director Miss Potts has assigned members of her team to that segment to keep the public up-to-date and informed.”

Rhodey whipped his head to the side so fast he was surprised he didn’t hear a crack, but Pepper studiously avoided his gaze, try as he did to bore a hole into her temple with the power of his glower.

“We know you all have questions. They’ve been asked time and again. ‘How long does he have? How much food does he have? How did he survive? How do we talk to him?’ and the answers might be not what you want to hear.

“We don’t know. But I can promise you we are trying everything in our power to save James Barnes. The entire focus of NASA is to return him safely to his family. We may not succeed, but we’re damn well going to try everything.”

A middle-aged man in a sharp suit forced his way into the room but rather than try to find a spot to stand and watch the proceedings, he moved quickly towards Fury, and without acknowledging the crowd of reporters, whispered something into the Director’s ear.

Rhodey watched as Fury’s hands flexed against the edge of the podium, how his shoulders ever so slightly relaxed, and he knew what was coming.

“Oh he isn’t,” Pepper grumbled beside him, a hint of annoyance in her voice. “I have to do this on the hour and he gets to play hooky?”

“I give it five seconds.”

It only took Fury three to make his getaway.
“I’m being called away, but Doctor Wilkes will answer your questions.” Ignoring the multitude of questions shouted at him, Fury stepped away, Wilkes easing himself back behind the microphone with a dismayed look. Having lost his concentration and his place, it was as though he’d just woken up to how he stood in front of a room of sharks after having bathed in blood.

“Bet he asked Coulson to get him out of this, lucky bastard. He never agrees to get me out of these things when I’m the one up there,” Rhodey griped, wincing as Pepper prodded him in the side with one well-manicured nail. Any time she didn’t have to be the one at the mic was just fine with her, and if that meant sacrificing her friends then that was what she’d do. If she possibly argued a little more often than necessary that she couldn’t possible give certain announcements in case she couldn’t answer the questions the reporters would doubtless have, well that was just between her and God.

“Yeah, yeah, I know. As soon as Wilkes is done, I’ll feed myself to the lions.”

“Communicating with Barnes isn’t the only focus of our attention. As of this morning, three of NASA’s satellites were repositioned in their orbits so as to give us a much longer daily period in which we can study the Ares 3 site,” Wilkes began, and Rhodey could just kiss the man. It looked like Rhodey wasn’t going to have to go up at all, and he didn’t resist the urge to shoot a smug smile at Pepper, earning a warning press of her stiletto into his big toe.

It was more than worth it.

He hadn’t even gotten to start on Everhart being on site.

“The realignment was carried out in the hope to catch sight of Barnes outside. If we can get images of Barnes himself, we’ll have a better idea of how we can best help him. It’d also be helpful to determine if he was injured as his physical condition will affect what he most needs in both the short and long term. Commander Rogers informed us of the antennae strike and we believe that it certainly pierced Barnes suit, which is what damaged the suit sensors and resulted in the data as to his physical status. Knowing his health is incredibly important.”

“Is he set on repeat?” whispered Rhodey. “He pretty much said the same thing three ways.”

With a soft sigh, Pepper pushed herself away from the wall and went to rescue Wilkes. Jason was an incredibly gifted scientist but could get lost in the work, not always smooth in conversation. Proximity to Fury wouldn’t have done him much good, either.

With a glance at his watch, Rhodey began to wend his way out of the room, stepping on colleague’s feet, and over their bags, shoving shoulders and slinking through gaps not nearly large enough for a grown man. He felt like he popped out of the door into the corridor rather than walked through it, the air blessedly cool after the heat of the Press Room, too many warm bodies sucking up all the oxygen.

“You need a moment or you want to ask what Coulson had to say?”

“You were waiting for me?” Rhodey asked, turning to where Fury was standing a few yards up the hall.

Nick shrugged. “Now, why’d I do a thing like that?”

Rhodey huffed; he could name a million reasons Fury would rather wait for him than return to his office and the three new phone lines, complete with new assistants, that’d had to be installed after one too many Senators had been unable to contact Fury and blown a gasket at being treated like a normal person.
“Did you get Coulson to come give you a message?”

Fury just smiled.

“Actually no, though the concept’s got merits. Walk with me.” Fury turned and began to make the long walk back to his office, Rhodey at his side. “JPL has an idea. Which I will never authorise but I’ll run it by you.”

“I like ideas.”

“I don’t like this one.”

“Okay.”

“They propose using Ares 4 to rescue him.”

Rhodey gave a wry laugh. “Do we have any other choice but Ares 4? It’s taken them over a week to come up with ‘use Ares 4’?”

Fury looked unimpressed. “Just how much progress has your crack communications team made in that time frame? At least they have something to tell me about what they’re thinking.”

“You really want me telling you what I’m thinking right now, Nick?” Fury’s silence spoke volumes, but Rhodey still made him wait ten seconds before asking his next question.

“So what’s wrong with this plan for Ares 4?”

“It’s fucking risky, that’s what’s wrong. It’d be risking another six people to get to him in four years’ time.” The implication was clear – Ares 4’s ‘rescue’ would be no more than the collection of a corpse if they couldn’t Macgyver a way to communicate with Barnes and get the necessary supplies to the Hab in time.

“You even gonna ask the crew if they’d do it?” Rhodey was still smarting from having to agree to keep Barnes’ survival from Ares 3 crew, but Fury was unable to carry out the same deception with Ares 4, and if there was one thing that Rhodey knew, it was the mind-set of those willing to risk life and limb to explore their universe in the pursuit of knowledge. He knew the insanity, and heroism, and belief system of the average astronaut. More so than any of the rest of NASA staff, the AsCans and astronauts took Barnes’ death and resurrection personally; bringing him home was their greatest wish. If one of them was stuck up there, they’d damn well want someone on Earth to come and get them.

“JPL already spoke with those shortlisted for Ares 4 before they came to me, and they all volunteered to do it.” Fury was still smarting from having to agree to keep Barnes’ survival from Ares 3 crew, but Fury was unable to carry out the same deception with Ares 4, and if there was one thing that Rhodey knew, it was the mind-set of those willing to risk life and limb to explore their universe in the pursuit of knowledge. He knew the insanity, and heroism, and belief system of the average astronaut. More so than any of the rest of NASA staff, the AsCans and astronauts took Barnes’ death and resurrection personally; bringing him home was their greatest wish. If one of them was stuck up there, they’d damn well want someone on Earth to come and get them.

“JPL already spoke with those shortlisted for Ares 4 before they came to me, and they all volunteered to do it.” Fury’s bitterness over that was evident. Fury hated being kept out of the loop.

“I’m thinking they insisted rather than volunteered.”

“Every last fucking one of them,” Fury confirmed with a scowl. He jabbed the elevator call button much harder than strictly necessary.

“You expected any different? Astronauts might as well capes for how fucking noble they are.” Fury caught Rhodey’s eye. “Minus Rumlow,” he conceded.

“Remind me to thank Pepper for keeping him well away from the press this last week.” The elevator doors opened with a ‘ding’, the two young men in the car stopping chatting the moment they saw who’d called it, the pair hurrying out and making towards the stairway. With a pleased expression,
Fury stepped into the car and retrieved a small keycard from someplace Rhodey didn’t ever want to think about. He reached out and slid the card down the side of the numbered panel, a whole new set of floor numbers appearing on the panel. Selecting the upper-most floor, Fury settled back against the rail, arms crossed, while Rhodey slumped against the mirrored wall opposite.

“So, you gonna tell me the idea you’re so against?”

Fury dropped his arms to grasp the rail by his hips, the action displaying his broad shoulders and were Rhodey a lesser man he might have been intimidated.

“Modified MDV.”

“A modified MDV?” Rhodey parroted back. “To what? Land at Ares 3, pick our boy up and then bounce on to Ares 4? Why keep the MDV design if we’d be asking it for more than it was ever intended for? The thrusters are directional, it can’t lift its own weight and that’s with only six on board, let alone seven. How are they gonna take the largest indivisible payload element and divide it? Why not make something better?”

“No time for a custom build.” Rhodey nodded, rolling his lips as he thought on the problem; a few years might sound like a long time to a layman but that would barely be long enough to satisfactorily design a new vessel that combined the abilities of both MAV and MDV. It’d take easily the same length of time to build it, test it, re-design it, re-test it, re-design it…Rome wasn’t built in a day and nor were space-crafts. It’d taken four years simply to decide on a design concept for the space shuttle and it’d been a further four years after that until Enterprise had been rolled out in ’76, and she didn’t even make it to space. It was another five years after that Columbia made space. Thirteen years from design to success.

They didn’t have thirteen years.

For all anyone at NASA knew, they didn’t even have thirteen weeks.

“Assuming that’d work, that they can modify an MDV that much, how do we keep him alive for four years?”

“I’m working on that.”

“If we can keep him alive that long, and if we can modify an MDV, and those are some pretty big ‘if’s, how’d it work?” Rhodey asked, rising from his slumped position as the elevator slowed to a smooth halt, stepping out into a hallway as unremarkable as every other in the building regardless of the altitude and whose office was the only one on the floor. He followed Fury into the man’s office, all too happy to collapse into a sinfully comfortable chair while Fury took up position behind his immense desk, half a dozen plasma screens displaying the latest images of the Hab.

They’d still been unable to get any images of Barnes, though the evidence of his shuffling around the site was clear every couple of days; the solar array would be clear, a new storage box outside an airlock, a rover parked a few feet to the left of where it’d been before. Kate was doing her best, and with each day she was able to synchronise the satellites under her control a little more, tweaking the algorithms and programs and whatever else complicated shit she did that Rhodey didn’t always necessarily understand.

“From the simulations they’ve been running, they’d need to strip it of weight and strap on more fuel tanks.”

“Which would just add weight back on.”
“According to Banner that’s part of why they need to strip off the weight.”

“And the other?”

“Take-off.”

“Yeah, that’s where I’m struggling. He knows it’s a descent vehicle, right?”

“He says they don’t need to get to orbit, just sideways a little.”

“Is that what we’re calling 3,200 kilometers now?” Rhodey shook his head in disbelief. “It’s not exactly an island-hop, Fury.”

“You still like ideas?”

Rhodey shrugged. “Depends on if they can really make it work.”

“Early simulations are-” Fury grimaced “-hit and miss.”

“Which is Banner-speak for ‘explodes a lot.’”. Fury nodded.

“Ask me how they want to reduce the weight.”

Rhodey instead stared at his friend in silence, but Fury appeared to have taken lessons from a cat: man could outstare the sun. With a huff, Rhodey relented.

“How’d they intend to lose weight? Put it on fucking Slim-Fast? The MDV’s already as light as possible without making the entire thing out of Vibranium which we can neither afford nor actually get our hands on even if we could.”

“Removing safety and emergency equipment.”

“Remind me to thank Bruce for ulcer I’m going to develop if we go through with this.”

“We won’t be at all if he doesn’t find a way to make it a hell of a lot more likely to succeed. I’m not sending six people off to die in a fiery explosion on Mars. And-” Fury held up a hand, “-don’t try to tell me that it wouldn’t be fiery because of the lack of oxygen or I will throw you out the window.”

Stepping up to the glass in question, Rhodey peered out. Far below a circle of concrete was illuminated by the warm glow of one of the lamps lining the walkway. It was starting to look mighty appealing.

“What about leaving the crew on Valkyrie and sending only a pilot in the MDV? It goes to shit and at max we’d only lose two of them.”

“That was my first question. The mission would have to be scrubbed and the AsCans would rather die in an attempt to save Barnes than scrub the mission in its entirety.”

“They’re astronauts.”

“Noble assholes.” Not bothering to hide his laughter at the imagery that brought up, Rhodey turned away from the view.

“What about two MDVs? Switch up the crew to have two pilots, one goes down alone to pick up Barnes, while the other takes the remaining four members direct to Ares 4.” Even as he said it, Rhodey knew the primary objection: cost. An MDV cost billions of dollars and even to rescue
Barnes, the money had to come from somewhere. Valkyrie would have to be retrofitted in order to carry a second enormous vessel. The extra weight might slow her down which would require greater stores of supplies…

It wouldn’t work.

“It would be safer to leave the Ares 4 crew on Valkyrie and send only the pilot down in the MDV. But doing that would mean scrubbing the mission and they’d rather risk death.”

“I don’t want to send anyone to die.”

“It’s space, Nick. We didn’t send Barnes to die—”

“I know where you’re going with this.”

“So I can skip the hand-holding, after-school-special speech about how giving into your fear is like giving up?”

“You give Stark that kumbaya crap?”

“Not lately.”

“He talking to you?”

“Something like that.” He wasn’t really talking to Rhodey, but periodically he’d answer direct questions in low, dangerous voice. Mostly to order Rhodey to get out of his office, but Tony was acknowledging his presence which was something.

“You any closer to getting to talk to our boy?”

Rhodey shook his head. In nine days they were no closer to talking to Barnes than they had been when the team had been assembled. He was beginning to worry that they’d never come up with anything, and they’d all be left with no choice but to watch the satellite feeds as the tracks between Hab and array became less and less visible, until the array was buried under dirt and the Hab would have long since lost power. Like watching a man die in slow motion.

“The dish?”

Rhodey nodded. Much like the exploding-MDV problem, all simulations of handmade dishes cobbled together from spare space vessel parts were not promising as to being strong enough to intercept signals from Earth. Fitz was running off of caffeine and staggering amounts of candy, and the last time that Rhodey had seen Simmons she looked like she’d died several days previous but had discovered she’d had too much work to just turn toes up and so was simply carrying on. Despite the dark circles and concerning film of sweat given the cool of the room, and the way she was swaying like she was standing in a gale rather than a simlab, she’d resisted all efforts to remove her, threatening one guy with a fire extinguisher.

Rhodey really hoped they came up with something soon or she’d have to be tranq-ed from a safe distance and driven home under sedation.

“Until you can improve the chances of JPL’s concept I can only recognise that a solution has been offered. However, on the basis that it is a stupid-ass solution, I am electing to ignore it.”

“I’ll talk to Bruce and get Tony on board. We’ll improve it. Make it safer.” ‘Make it more likely to work.’
“Do that.”
Rhodey nodded.

“Your brain-trust have any ideas on the other problem?”

Rhodey shot him a questioning glance.

“The food issue.”

“No.”

“Work on that, too.”

“Anything else you want me doing?”

Fury’s eye narrowed. “Excuse me?”

Rhodey waved a hand, shaking his head. “Nothing, nothing. Just tired.” Fury’s snort suggested he knew that tune.

Fury rolled his head to the side where it rested on his fist and stared past his reflection in the glass to the night sky. Cloud cover obscured the stars.

“I wonder what it’s like. He’s all alone. He thinks we all think he died. What that must do to a man…”

Fury turned to Rhodes.

“Can you imagine what he must be thinking right now?”

**Log Entry: Sol 61**

**Hab audio recording**

"If you like Pina Coladas, and getting caught in the rain, and the feel of the ocean, and the taste of champagne. If you like making love at midnight, in the dunes of the cape, you're the love that I've looked for, come with me, and escaaaaaaaaape."
Grand Slams and Grand Plans

Chapter Summary

If Bucky is going to get to Schiaparelli, he's got a lot of work to do to prepare to get his ass there. Time to pimp a rover.

Chapter Notes

See the end of the chapter for notes

Log Entry: Sol 63

I am surrounded by boxes of water. Even with my swanky rustic dirt floor absorbing a shit ton of the stuff, the place still looks like I’m staging some sort of Old West convention and am expecting a bunch of space cowboys to turn up looking for a place to water their horses. Which would be really helpful; I’m only one man, a man on a reduced diet at that, and I can only create so much fertiliser. My kingdom for some space cowboys to drink at my saloon and some space horses to shit in a bucket.

I might have spent the bulk of the last couple days watching Firefly. Man, extra-terrestrial planets are always so much fucking cooler on TV. Here I am, actually capable of being a space cowboy, and I got no horse and no gun. It goes real well with my no air, no phone, no MAV, no taxi ride home.

Ye Olde Mars Gift-Shoppe sucks.

I am finished making water. Fucking finally. I’m no longer at risk of blowing myself up (at least not while making water) and the potatoes will have all the water they want and can get down to the serious business of growing. With enough left over for me to seriously side-eye and wonder whether or not I could theoretically build a Jacuzzi. I’d settle for a straight up bath, but a Jacuzzi is the dream.

Picture it…Mars 2036. A young space cowboy who has toiled in the field of shit for weeks, suffering set back after setback, embarks on a day of rest and relaxation with a day at the spa, indulging in such luxuries as washing his hair.

Fuck, I think the team’s TV choices are getting to me. Is there such a thing as too much Golden Girls? Sure, the later seasons kind of sucked, but the first five seasons were fucking awesome.

Why am I rambling like a crazy person? I’m gonna get no support for this but, I’m kinda bored. Nothing has tried to kill me in days and I’m starting to enjoy all the weird-ass TV on Barton’s drive. Which is, incidentally, where I found Firefly.

Of course bored is, in its own way, fantastic. Bored means stable.

It also gave me the time to realise that I’ve settled into life here, strange as that fucking sounds. Back in training, Garner said once that contrary to popular belief, it actually takes more like two months to develop a habit and settle into a routine. Guess I’m there. Sure, 63 Sols is nothing in compared with 1,400+ that I’ll have to endure to make it to Ares 4, but I’m adapting pretty well and the last couple days I’ve actually had time to recognise that. I’ve developed a routine and so far it’s working out for me.
I get all the shit I don’t wanna do out of the way in the mornings after a hearty breakfast of 1/3 of that day’s rations – I’d only procrastinate all day and never get it down otherwise. That’s all the heavy labour, boring or painful shit like clearing the solar panels, rover trips to the weather stations and quick checks on both rovers on the return to base. Drag a tank from the MAV fuel stage, release the CO2 into the Hab, return empty tank to the stage and then return aching self back into Hab to collapse just inside the airlock, every muscle applauding the decision to stop. I sit there until my arms, back and legs stop sending me rude messages about how I can go fuck myself and struggle up onto legs made of Jello and shimmy out of my suit.

You got no idea how fuckin’ thrilled I am that the tank shit is over with.

After my morning exertions, I treat myself to a 1/3 of my protein brick allotment for the day and half a cup of some soup or stew. Then I set off a shitload of diagnostics on my machines. They’re not designed to work as long as I’m going to ask them to so I’m running tests daily. Call me paranoid as much as you want but I want – I need – to know the second one of these babies gets so much as a metaphorical tickle in the throat. Then it’s just my plants and me, one on one time with each of them, testing the soil, adding more fertilizer, and generally just urging them to grow and keep me alive.

Then I spend a few hours on my latest scheme, before surrendering to ninety minutes of the Barton-approved exercises and stretches I’d gotten out of the habit of doing over the last couple months and I gotta get back into doing it – bone-density loss is one thing, but I ain’t gonna get kidney stones; those fuckers are painful and I ain’t giving birth to one down my dick- before rewarding myself with the rest of the days rations and head off to bed.

Wash, rinse, repeat.

It’s not perfect, and it’s sure as shit not how I imagined my life would be, but so far it’s working out for me. Sure, I got my problems, but I also got no loud neighbours, I’m a two car household with no problems finding parking, I don’t take orders from anyone, and at sunrise and sunset it feels almost like home; the ever-present dust particles in the atmosphere absorb blue light and scatter the warmer colours kinda red for most of the sky. But around the Sun, when it’s near the horizon, and the light passes through the greatest amount of atmosphere and dust, the dust particles scatter blue light forward to create a cool, blue glow around the sun. It ain’t quite sky blue, but it’s pretty.

With all that going for Mars, I’m surprised people aren’t killing each other to get up here. Imagine the brochures for moving into a condo up here; we’ve got lotsa’ space, no pollution and almost no crime. Only a couple cases of grievous bodily harm, but otherwise it’s pretty idyllic. If you don’t mind living next to Doc Brown Junior, and the occasional explosions he causes. Oh, and of course the killer storms, lack of oxygen and real water, no greenery to speak of, and not a single dog to pet.

But aside from all that, realtors could make a killing.

Introspection aside, stable also means I have the time and energy to start really preparing for long-term survival on this dustbowl and the scheme I mentioned earlier. I’ve got to find a way to get to Ares 4 – chances are that if I wanna get rescued, I’m gonna have to rescue myself first.

I ain’t no damsel in distress.

It’s my best shot, my only shot – even if I could just radio home, Ares 4 might be the first chance for them to come get me and in order for them to do that, I gotta get to their base. I can’t think of another way to get into their MAV otherwise.

Interplanetary taxi pick-ups aren’t fucking speedy. You wouldn’t believe how many free pizzas I could con Domino’s out of if I could call ‘em.
So that’s my next challenge: How do I travel 3200Km to Schiaparelli crater?

I know the rough – very rough - layout of the Ares 4 site; we flew right over it when we first got into orbit. I watched Wilson land their MAV remotely from Valkyrie which was freaking cool, a video game with fucking awesome graphics and with a mere few tens of millions worth of space craft at the other end of the joystick. No pressure. Don’t forget it takes the MAV up to two years to make its fuel and they’re sent sooner than that just in case, for some reason, it takes longer for those fuel tanks to fill. Despite taking a longer trip to get here, Ares 4’s MAV arrived at about the same time we did and Sam’s landing of it was as efficient as when he shook us up in the MDV.

Even if they wanted to, Houston couldn’t land it from Earth: they’re anything from 4 to 20 light-minutes behind Mars. Which basically means they’re behind the curve on everything. By the time they noticed an angle was wrong or an approach was bad, the thing they were landing would have bulldozed itself into the planet and attempted to bury itself.

We learned that lesson with the various probes we sent up to Mars before we got it right – more than two-thirds of the missions to send probes and Landers up here were unsuccessful due to failed components, glitches in the machine, or some other heinous error that resulted in millions of dollars’ worth of craft crashing into the surface or, even worse, missing the damn planet all together. I swear this planet is littered with our embarrassing failures at space exploration.

Oh hey, I am one of those!

From Mars 2 to Mars Polar Lander to Beagle, mankind’s history of landing shit on Mars from Earth is sort of fucking pathetic. Hence Sam’s deft touch from orbit.

Unlike those other pancakes, I’m pretty lucky. Relatively speaking. Mars ain’t small and I’ll take 3,200km over 10,000km. The first fifth of that will be on sweet, sweet flat terrain, thanks to Acidalia Planitia and its Kansas-y ways. The rest of the journey will be made up of 2,550km of craggy, boulder-ridden, pot-hole infested, ball-crushing hate.

How bad can it be, you ask?

Lemme guess, all of you have only ever driven on tarmac? Maybe, just maybe, you’ve actually taken your 4x4 off road and went through a puddle that one time and then almost had a conniption from the amount of mud smeared up your custom paintjob.

Mars is like Arizona or Utah on steroids.

There are some similarities to Earth though, like how it ain’t just the ground you gotta worry about, there’s the storms too. I’m not so worried about the wind blowing the rover over, it’s too heavy and low-profile for that. Nah, it’s the dust. Wilson had to walk the MAV every day, start up everything short of the engines to check it for any damage. Each particle of the stuff is so small it can get in where it shouldn’t and do all kinds of damage.

Unlike on Earth, I can’t just hop out and pop the hood. I wouldn’t know the first place to start with fixing one of ‘em and opening the engine compartment would only expose it to more dust. Also unlike Earth my rover is 100% electrical and away from the Hab, I’m guessing it’s gonna have to be powered using solar energy somehow. I haven’t figured that part out yet, but when I do, a dust cloud blocking the sun isn’t going to make my life any easier.

Even a low level cloud would limit visibility, and that’s when the dangers of the ground meet the dangerous of the sky; you can’t avoid what you can’t see. Knowing my luck so far, I’d manage to crash when I’m the only fucking driver up here. At least the only fatality would be mine.
That didn’t sound anywhere near as positive as it was meant to.

Oh look, I have a new project.

Idle hands are the Devil’s work.

This little trip of mine has a lot of obstacles to overcome before I can even think about setting off; other than a rough idea of what direction to set off in – south-southeast, like some shitty straight to video Hitchcock sequel - I don’t have detailed maps for any of the journey past Acidalia Planitia: there’s no reason for the Ares 3 crew to have maps for Ares 4, we’d never go that far.

Compartmentalisation sucks.

Even if I did have the maps, I’ve already mentioned that I don’t have the capability to run a rover for the length of time required for the journey, they need charging daily. They’re also just not designed for me to live in for prolonged periods; they’re for quick jaunts, not The Great Race. Living in one while New Brooklyn was a bomb was enough to have me pulling my hair out. Weeks in one? I’m gonna have to chant to myself ‘endure to survive, endure this to survive’, every morning or I’m go for a walk on the surface without my helmet. I’ve got to decide what needs to come with me - food, water, clothes, any tools I need, and that’s before I get to any equipment - because if I get part way to Schiaparelli, and realise I don’t have something I need, I’m gonna die out there.

So how do I get to Schiaparelli with no maps, no GPS, no gas, no air, and no clue?

Research.

Y’all think I’m kidding. This is my life on the line, so I’m gonna do what I do best.

I was sent up here with a particular mission – is Mars capable of supporting life? Well, I’m adding to that.

Can the life on Mars leave?

I’m a risk-taker, wouldn’t have strapped myself into a bomb and flown to Mars if I wasn’t, but I ain’t so much of one that I’m gonna try to get to the Ares 4 MAV in one go. Nah, I’m gonna go at this like a scientist, a mini-NASA, but with none of the red-tape bullshit that goes along with being a governmental agency. No grants to apply for, no micromanaging, no Colonel Phillips screaming in my face…

Mars, you’re looking pretty good to me right now.

Like everything else I do, I’m taking it one step at a time because otherwise this shit seems insurmountable. So what are the absolute bare necessities that I need to get to Schiaparelli?

A rover.

Solar cells to recharge the rover as it doesn’t have its own, which is the stupidest shit ever, am I right?

An oxygen source that will also need charge.

A water source that will also need charge.

Thankfully, the specs of everything are in the Hab.

Who wants to Pimp My Rover?
I’m thinking some spinning rims, flame decals running down the side – actually, let’s keep flames away from my tricked out astro-mobile.

I’ve always wanted a flying car. This is just gonna have to suffice!

Long story short, I’ll have to turn the rover into a mobile Hab and I’ve selected Rover 2. It was a great nanny to my potato plants and it and I bonded throughout the Disco Debacle during the Great Hydrogen Episode of Sol 37.

The mission originally had a 10km operational radius, but because we couldn’t ever drive in a straight line from where we were to where we wanna go because of the geology being what it is, NASA’s benevolence saw fit to give the rovers the ability to go 35km on a full charge from the 9000Wh battery. Bet the electronic cars on Earth ain’t looking so shitty, huh?

Those 35km presume the sort of flat terrain and relatively small rocks of Kansas-ville out there. Even the other Ares sites are as flat as it gets up here. Sure, the rovers have a decent ground clearance, but it’s still better to drive around shit than go over it; for all I know the rock I’m going over is stable, but maybe it’s sitting on a rock that isn’t, or on a rock you can’t see because of the dust on it, so you drive on it, it shifts under the weight of the rover and suddenly all that nice clearance doesn’t exist anymore and you’ve jettisoned a sharp bit of Mars into the undercarriage of the rover.

The battery sits in the undercarriage.

Seeing how it’s a good idea to avoid shit up here?

But as I do enjoy doubling my pleasure and doubling my fun – I’ve gotta learn how to delete parts of these logs ‘cos I swear that shit sounded way filthier than I meant. Don’t get me wrong, I’m the king of dirty talk –FUCK! REDACT THAT IF MY MOTHER READS THIS.

Anyway, where was I? Ah, yeah, batteries…oh yeah, I’m gonna loot the battery from Rover 1. Instantly doubles the range. So that gets me 70km. Not exactly gonna get me to Schiaparelli is it?

So, I not only gotta be able to charge ‘em up out there, but I also gotta find a way to extend the life of the batteries. I can’t get to Schiaparelli 70km at a time. Okay, I can, but I don’t wanna. It’ll take too long and while four years might seem a lot of time, I don’t wanna be spending half of that caravanning across the surface.

I ain’t Walter White – I ain’t spending my life in a shitty Winnebago.

Putting aside the whole charging issue for a moment, let’s focus on making that battery last. What’s first?

Everything on and in the rover is powered off the battery. It’s not just driving the wheels, it’s keeping the lights on, keeping it warm, powering the airlocks, the filters, everything. The less of all that shit it’s gotta power, the more charge can be diverted to the wheels.

One of the biggest drains on the battery is heat. Mars is cold. Really, really, really cold. Not only because it’s further from the Sun than Earth, but because it has such a thin atmosphere it can’t retain heat, and of-fucking-course, we’re the furthest north any expedition to Mars has been, manned or otherwise, so the temperatures are brass balling it.

The latitude also provides another problem – less sunlight for half the year. Mars has seasons, just like home, except they’re pretty much as fucked as we’ve managed to make Earth’s – Mars’ year is almost twice that of Earth’s so the seasons are longer, in most cases.
Why am I boring you with shit about the weather up here?

Maybe ‘cos I wanna make small talk. You got problems with that?

Alright, fine. Because it’s important. For a couple reasons. Can you guess?

No?

Lazy assholes.

Okay, fine I’ll take you to school. Again.

Spring and Summer up here are the longest seasons, about seven and six months apiece, which would be awesome for topping up my tan if it weren’t for the rampant melanoma that’d develop. Just like on Earth the days are longer and the temperature warmer - or at least as warm as Mars is gonna get – and most importantly, more sunlight. Fall and Winter are roughly 5 and 4 months. It’s colder and the days are shorter. Can you guess why this is important now?

Fuck me, I gotta spoonfeed you all this shit all the time, don’t I?

If I end up having to make this journey in the winter, I don’t know if there’s gonna be enough sunlight each day to charge the rover’s batteries when I run ‘em down, meaning I’d have to spend two days charging for every one I can actually drive. 70km a day was bad enough. 70km every three days is unacceptable. I’m also gonna be needing heat in the rover or I’m a Bucksicle. But the heat drains the battery, which I might not have enough sunlight to recharge.

Do you see my problem now?

I’m gonna be spending just about every moment of the trip in the rover, getting out only to change the battery and set up solar panels. That means the rover has to be heated 24.6/7, but looking at the specs, the element in the rover eats up a massive 400W, almost half of the battery. That’s because we were never meant to be in the damn things for more than a few hours, except in an emergency so it didn’t matter that the heater was greedy as fuck.

It matters now.

A lot.

If I can’t figure out a way to lower that drain, I’m not getting to Ares 4.

I gotta choose – heat or death, death or heat.

I wonder which I’ll fucking choose.

I’m not losing over half my charge to a heater. My first car didn’t have heat and I got by using my warm blood and lots and lots of layers. Even having accidentally destroyed some of Sam’s clothes, there’s plenty in the Hab to pilfer. I’ll mummify myself in blankets if I gotta.

It has to be enough, I need that power.

According to my calculations, that you’ll just have to trust me on ‘cos I’m betting you don’t wanna do the maths any more than I do – lucky bastards that you all are – moving the rover eats 200Wh for every kilometre it goes. So the two batteries combined 18000Wh without running the heater would get me 90k.

Now we’re fuckin’ talking!
But wait, there’s a catch.

Because of course there fucking is, and it ain’t that I’ll freeze to death, because Mars doesn’t believe in limitations.

The rover will never actually do 90k, at least, not in a straight line. Welcome to theoreticals kiddos. Once outta Kansas it’s gonna be endless rough terrain, loose sand, fissures in the ground, rocky outcrops to drive around…you get the idea. You ever driven down the coast of Italy? It’s kinda like that. You gotta wind back and forth so much that you drive 50 miles just to travel 20 miles if it’d been a straight line.

Still, better than that shit-fest vacation I had in Azzano with Dugan and Morita, buddies from university.

Wonder what they’re doing…if they’ve any sense they’re schmoozing a beautiful woman – and failing miserably – or, and far more likely, throwing back some bourbon and smoking something foul and swapping stories of the good old days.

Morita has sense. Dugan, not so much. Anybody who has seen his preferred headwear can tell you that.

Have a drink for me boys.

Hey! I’m never gonna have to buy a fucking drink again! I get home and people are gonna fight each other to buy me a beer.

Damn, there’s another reason to live right there!

Still, knowing the max distance I can travel a day does allow me to ballpark an itinerary, no matter how sloppy an estimate that is. At an absolute maximum of 90km/day, the journey time will be an absolute minimum of 35 days. Being realistic, and conservative, let’s say I manage a more likely 60km/day, and take into consideration any shit I encounter on the way – I may not get a flat tyre, but knowing my luck, I’m gonna come across the grand fucking canyon or something. Actually, if I do come across Valles Marineris, I am so fucking lost there’s no chance I’m getting to Ares 4 in time – the journey is more like to take between 50-55 days.

55 days of being in the rover. 55 days of being unable to stand upright in the main cabin. 55 days of nothing but barely enough room for me to lie down, and that’s without a mini-Hab’s worth of shit. The cabin is basically the same size as the inside of a Landrover. Sure, I’m gonna have to rip out the benches – the rovers seat 4 passengers in the back on their absolute best day and with no other option presenting itself- which sounds like I’ll have so much more room. Bullshit. It’s gonna be me plus a metric shit-tonne of equipment, so even my first apartment in Brooklyn was larger. I’ll admit not a lot larger, but still cramped isn’t the word for it. For all I know I’m gonna be sleeping upright in the driver’s seat.

For 55 days.

Are you shitting me?

At the tyre-burning speed of 25kph – I know right? Bet you’re all jealous of me. It’s like the dirt-bike I had as a kid, it’s engine allowing me to be an entire 55cc of mayhem, but hey it’s faster than the Apollo boys got so I’ll take it – it’s gonna take 3.5 hours for me to run the battery down before I have to charge it, which will definitely take all day, but I can drive in twilight – so long as I’m careful as it’s not like the rovers have headlights - and leave the bulk of the sunny time of the day to
charging, which at this time of year is about 13 hours of sun. 13 hours of sitting around bored as fuck.

But, like I said, I don’t know yet if it’s gonna be summer when I set off. If it’s winter, the amount of sun is gonna be easily half that. I don’t know yet how long those batteries would take to charge using a solar panel. Which is another thing to add to my list of ‘Shit Bucky Better Figure Out Before He Dies Up Here’.

So, having decided on R2D2, and pilfering the battery from R1, on to item 2 – power. I gotta figure out a few things regarding the batteries:

First, how to hook them up to the solar panels to charge them. Normally it ain’t so direct a charging process – the array powers the Hab and the Hab charges the rovers, kinda like your house gets power from the grid, not straight outta the plant. I gotta engineer some way of directly hooking the cells into the batteries. Without accidentally frying shit.

Awesome.

Second, how many panels it’s going to take to charge two 9000Wh batteries? That’s a lot of juice, and I gotta manage it in the span of a sol, of a short winter sol if necessary. I gotta plan for the worst while hoping for the best. I officially sound like some pillow my gran woulda stitched.

Even more awesome.

Third, how long it’s going to take to charge them? Like I said, I gotta be able to do it in a sol, I ain’t gonna have the time, literally, to sit out on my ass for two sols for every one of driving. That’ll take too long to get to Schiaparelli, and I can’t spend that long in a freaking rover. I will kill myself. I ain’t kidding.

Four, how the fuck I’m going to be able to carry the needed panels? The panels aren’t small. Their saving grace is that they’re really fucking light considering their size. But I’ve been rethinking the stack idea. Okay, fine, I forgot about a fun little quirk of these panels because I’ve had a lot of shit on my mind. These ain’t your momma’s solar cells that are hard or inflexible, they roll. For real, they roll up like some sorta sleeping bag. That might make transport easier. I still can’t have ‘em in the cabin because even rolled up they’ll take up space, too much space, so that leaves the outside of the rover. Rolls might, might, be easier to strap to the roof than a stack. I don’t know.

Guess I’ll find out tomorrow.

I gotta make sure I’m doing everything I can to protect the panels, they’re my life. I don’t know if they’re gonna be safer rolled up or flat. My solar panels aren’t exactly the same thing as you’d find on the top of someone’s house – mine are top of the fucking line. They’ve gotta be – light just isn’t the same up here as it is back on Earth, it is, shockingly, redder. Combine that little issue with the cold temperature, and the lower solar intensity, and you’ve got a fun little cocktail of less than optimum energy production.

Lucky for me, I got the same kinda solar cells as the MERs Spirit and Opportunity: GaInP/GaAs/Ge triple-junction cells. These cells have three layers, allowing ‘em to each absorb different sections of the spectrum, absorbing more light. Why does this make me lucky? Those fuckers were hardcore. They had missions meant to last 90 sols and they blew right past it. Sure, Spirit got stuck in the dust and eventually stopped responding, but that was after more than 2,500sol’s, and who can honestly say they never got a little stuck in the dirt? I ain’t gonna lie, I got a soft spot for other shit that’s stuck up here. Opportunity kept right on trucking for decades. Fuck, until Ares 1 got here and flaunted their rovers around the place, Opportunity had the record for furthest distance ever travelled by a vehicle
not on Earth.

Yeah, I’m a nerd, what part of that hadn’t you already figured out?

How did Spirit and Opportunity keep going for so long? Partially those triple-junction cells. Mine are even more advanced than the MER’s, with a 44% efficiency at Mars solar intensity, and with the redder spectrum of light. Don’t fucking roll your eyes at me, y’all got no idea how efficient that is. In order to get that sorta efficiency in a commercial cell back on Earth, companies gotta use ‘concentrated’ sunlight, meaning intensity of sunlight sometimes hundreds of times as intense as natural light. So basically, fucking cheating. Up here I can’t just magic up hundreds of sun’s worth of light, I just get what I get. Which is why the array’s framework is currently angled at 14 degrees to catch the most amount of sunlight. Ares 1 and 2 were far further south, close to the equator where the seasons are more temperate and receive the most sunlight. Mankind’s never been so far north on Mars, we were fuckin’ guinea pigs to ensure that we could live up here. We were never meant to be here over winter, but I’m gonna have to adjust the angle of the frame to get the most out of the sunlight during the short sols.

If I had any other form of panels, I’d be fucked over the long winter this far north, so you can pry these panels from my cold dead hands. NASA’s engineers worked their asses off on these. To give you an idea of how cool they are, the earlier Pathfinder displayed a loss of almost 0.30% in solar cell efficiency per sol during its first 30 sols. It used the more limited dual-junction cells on its Lander and rover and they suffered from depletion and dust accumulation, even though it too managed to keep going for two months longer than expected. With me up here to keep ‘em clean, my cells aren’t gonna experience the loss from dust obscuring ‘em, so all I gotta worry about is keeping ‘em in good working order. Opportunity proved that these cells can last years, and that’s what I need. Forget the Water Reclaimer and the Oxygenator, if these cells fail, I can’t power shit.

Not to mention, if I bust these or damage ‘em, a whole building of engineers will just burst into tears spontaneously with no idea why they’re all sobbing.

The MERs were able to produce around 900 watt-hours of energy per sol, using an array a little over one square metre. Me? I need to produce twenty times that.

No pressure.

I’m not gonna bore you with talk of Tau, Albedo and Lat, let alone beam and diffuse, as well as – and I ain’t shitting you here – dust haze layer, but be assured that the calculations were fucking complicated. I had to take into consideration that Martian watt hours ain’t even the same as Earth watt hours. Bet that just fucked you up. Oh yeah, being on Mars is a fucking treat. But I ain’t gonna waste time bragging about how smart I am because I figured it all out. And by ‘it all’ I mean I figured out how much of the array I need to steal and take with me. At least, I’ve worked out what it should be, but I ain’t gonna take even my brilliant work at face value, I’m gonna test it.

Long story short, even with my solar cells being more advanced than the ones that were available thirty years ago, I figure I need about 24 square metres of solar cells, but I’m rounding up to 28 for safety because I won’t be taking the array framework with me and so the cells will be flat on the floor, therefore they ain’t gonna be at the optimum angle to absorb light. A handful extra cells will just help make up any shortfalls. If I can find room on the rover, I wanna take a few extra on top of that, but at a minimum, I need 14 of the panels.

Robbing from the solar array does not fill me with joy. It took Thor and I too many fuckin’ hours putting that in, and now I’m gonna pull it up. This must be what a master luthier feels like whenever some asshole wannabe rock star takes a guitar and smashes it on stage. Or how my mother felt every Saturday when she’d clean the house while I was at football practice and then I’d come home
covered in mud.

It’s a shitty feeling but not one I can avoid. At least I’m not gonna have to take the whole thing apart. That’s something.

Besides, I’ll put them back when I’m done experimenting.

So that’s my plan – tomorrow is all about

I’m gonna run the R1 battery down and then see how long it takes to charge with the 14 cells.

For the test run, I’m gonna have to stick ‘em on the roof in two stacks and they’ll stick out over the edge but I can lash ‘em down with something. It’ll be like when my neighbour had a building company and the idiot put his ladders across his truck roof instead of along.

At least I won’t be nearly decapitating pedestrians.

I’ll drive until just before the battery craps out – I’ll still need power for life-support – then take ‘em down, spread ‘em around and then wait.

All day.

It even sounds boring.

So tomorrow’s mission, which I’ll accept because I have no choice, is to liberate the battery from Rover 1.

One thing I’ve learned up here? Everything take four times longer than you think and ten times longer than it should. This is not the same thing as learning patience, by the way. It’s bowing to the inevitable.

It should take about three minutes to remove the battery from the Funvee.

So I’m guessing that means that in reality all of tomorrow is going to be spent getting the battery out of the Funvee.

Oh yeah, tell prospective Ascans that their days will be spent with such high-octane excitement as this and NASA will be bulging with wannabe astronauts.

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Log Entry: Sol 64

Guess who was right?

Ever had one of those days when you knew you shouldn’t have gotten out of bed?

Since Sol 6 not a single morning has passed when I didn’t feel like that, but today was a treat. Just ask the bruise on my thigh the shape of Texas. I’m a ball of confused and conflicted agony. It’s been a rollercoaster day.

First thing I had to do was drain the battery of the Funvee. Can’t test how long it takes to charge from the panels if I don’t have a dead battery, right?
Feeling like somethin’ outta Nascar, I drove the Funvee in circles around and around and around and around…you get my point. I circled the Hab so many times I got dizzy. And super bored. Really, really, really bored. I gotta figure out how to play videos in there or I’m gonna go crazy.

I started singing along to some of Natasha’s music. Save yourselves, there’s clearly no hope for me.

Soon as the battery alarm started blaring – this is an alarm as subtle as the oxygen alarm in the Hab – I pulled up near the array and left it there. I won’t get the array apart in time to start charging the battery today, but if I left it until tomorrow, combined with the time it was no doubt gonna take to get the battery out, I’d be unable to charge tomorrow either. This way, the battery was all ready bright and early tomorrow when I can hook it to the liberated panels.

Look at me thinkin’ ahead and being sensible. I’m as shocked as you.

That was the high-point of my morning. Basically the only thing that went according to plan.

I’d be lying if I said I’m surprised.

Up here things come in two flavours. Easy and hard. There is no in-between. I miss Earth with its veritable Baskin Robbins approach to doing things. I had a double scoop of all Mars had to offer.

The rover battery is located on the underside, just behind the cockpit ‘neck’, under the cabin. Super accessible perhaps to guys on Earth with ramps. The only way to get access to the holding clamps – two serious motherfuckers that take a lot of force to open – is to crawl under the rover. Does that sound safe to you? I had to be under the very tonne of battery I wanted to remove as it fell to Mars.

‘Here lies Bucky Barnes, the pancake of Mars.’

The first clamp came away pretty easily, after I rolled onto my back – risking my suit as I wriggled around on sharp rocks - crushed my legs to my chest to brace my feet against the undercarriage, trying not to damage any of the fancy equipment, and hauled with all my might.

Missed my head by inches.

Of course that small victory was also a pain in my ass. The freed side of the battery sagged down, placing a stress on the opposing clip that it wasn’t designed for: both clamps were meant to be released at the same time, like some sort of nuclear launch code. No matter how hard I hauled, I just couldn’t get the right angle, and the clip wouldn’t release. I rolled out and attempted to apply the logic that I should have employed from the start; I fetched the Mars equivalent of a 2-by-4 from my stash of MAV struts, aiming to kick it under the battery and against the side that’d sagged, thus taking some of the weight and stress off the second clamp. Which got me about as far as you’d imagine. If I’d done it before releasing the first clamp, the battery would have rested on it and the second clamp would have been a breeze.

Nobody is less surprised than me that I didn’t do it logically. Obviously my flash of brilliance with draining the battery also drained me of critical thinking skills. After an hour of tugging, punching, swearing, and pleading with the fucking thing, out of frustration I kicked out at it, the cramped confines making it weaker than a kitten in a hurricane.

Bless my cat-like reflexes.

Voila, I had one fine-looking rover battery. Skee-ball games really do pay off in cash and prizes after all. Sure, I almost got pancaked, but on the other hand I did get my ‘Bucky almost dies’ quota for the day out of the way before lunch. I’m an efficient guy,
Now, either you’re like me and so fucking euphoric that you haven’t noticed the sheer stupidity that just happened, or you’re laughing your ass off at me.

Bastards.

For those who haven’t caught up, while I did have my battery, it was sitting underneath a ton of now-immovable rover. I didn’t so much have success so much as I had a paperweight. Had I put some thought into my little venture, I’d have seen the problem coming and prepared accordingly. As it was I got pissed off.

Back to the grindstone.

I rolled back over onto my back, braced my feet again it and pushed, more in hope than expectation. Shockingly, fuck all happened except me remembering that of the two of us, I was more likely to be the one moving and that I was in a delicate spacesuit, lying on sharp rocks, any one of which would just love to rupture my personal little spacecraft.

Fuck that.

Onto Plan B. Plan A was flawed, deeply, but I had high hopes for Plan B. Fine, I had middling hopes for Plan B, mostly because no matter what I do up here it’s only when I get to Plan F – aka This Plan Is Fucked And So Am I – that anything actually works.

In anticipation for figuring out how the fuck I was going to lash the second battery to R2D2, I had brought out with me all the strapping, webbing and cording that I could spare from the Hab. I made a fucking mess of the place digging it all out and fuck it, I’m going to use it.

So back to wriggling the fuck under the paperweight with the webbing, wrapping it around the battery like the ugliest Christmas wrapping you’ve ever seen attempted by a toddler without the use of one of its hands. Slipping back out, I knotted together the other ends into a rough harness like a scene outta fifty shades of Mars. I always knew the Romans were kinky fuckers. I stepped into my homemade BDSM gear and made like the Budweiser Clydesdales.

Where can I get one of them? Because no amount of throwing my ever-decreasing weight into the traces got me so much as an inch and I needed to move the fucking thing a good few feet. The battery is huge. Really huge. Barely able to pull it even in Mars’ gravity huge. The rovers weigh about three tonnes, two thirds of which is chassis and battery. So even in Mars terms I’m trying to shift in excess of 750 pounds. My ass ain’t ever got a hope of shifting that. Fuck, even pre-skewering, I’m man enough to admit I couldn’t move a third of a tonne.

I ain’t no Iron Man and I’m okay with that.

Mostly.

But I’ve grown since being up here, I was prepared for being humiliated by a fucking box.

Totally prepared.

What happened next, to an untrained observer who didn’t know better, might have looked like a tantrum. If anyone had been watching me from on high, I might be embarrassed to think someone witnessed how I stormed around, kicking the dust up and throwing pebbles and basically being a brat.

Good thing nobody is watching. And that it wasn’t a tantrum.
Especially when I walked into the fucking towbar fixations on the back of R2D2, and my brain engaged. Had this been Earth, I might have leapt out of the bath and gone screaming down the streets buck-ass naked. Seeing how that’d kill me up here, I settled for acting like a grown-up. Quietly and calmly I fired up R2D2 and reversed it up to Funvee, linking ’em together and voila, tow the Funvee away to reveal a beautiful battery.

So that just leaves what to do with the fucking thing.

I can’t put it on the roof because that’s where I’m gonna put the cells. It can’t go underneath because the other battery is already there. No room in the cabin even if it could fit through the airlock, assuming I could even get the fucker up that high.

I really should of thought of that problem first.

I did what anyone in my position would do: I broke for lunch. Maybe some strategic planning. But mostly for the sweet, sweet taste of rehydrated tomato soup. I was also feeling a little sorry for myself, and limping pretty bad from where I’d attempted to smash my femur with a towbar, so I helped myself to half a sachet of freeze-dried ice cream.

Hmmm... just like Ma used to make.

I guess I gotta explain the problems with finding a home for 750+ pounds of ungainly battery on my rover. I’ve talked a lot about my cool cars, but I guess y’all might not know all that much about ‘em, except that they’re expensive. And fucking sweet. But mostly expensive. Anyone that’s ever seen a sci-fi movie is probably gonna be pretty familiar with the concept but lemme run it by you anyway.

Rovers are invaluable on missions like Ares, just like they were during the Apollo program when we first bounced around the moon. They’re invaluable for one very good reason – we can explore further. It’s what made later Apollo missions so much more productive and scientifically advanced than all that came before. The astronauts were limited back then in their explorations around the lunar lander – they could only go as far as NASA deemed they were capable of walking back if their faithful steed sputtered to a stop. Which, if you’re wondering, was six miles. Six freakin’ miles in a space suit. A space suit from the ’60s, no less. Bet Scott and Co wanted to kick whoever came up with that crock of shit right in the nuts.

Probably Phillips. The man’s nine hundred years old, he probably trained Aldrin.

He probably trained Icarus.

In case you were wondering, nah, I ain’t ever walking six miles in even my fancy-ass suit. I ain’t being hyperbolic when I say I’d rather die.

Technically speaking I shouldn’t even be calling ‘em rovers even though I’m gonna: they are, as the engineers liked reminding us as often as possible, Space Exploration Vehicles, and the ones we use currently actually come in a couple variants – surface and space.

Can you guess which flavour of ‘em we got?

If you can’t, then there’s no helping you and, uh, please ask for adult supervision when using scissors or crossing the road. Don’t look at me like that, I’m just lookin’ out for you.

The surface version is made up of the same pressurised cabin as the space version, just mounted on a chassis and is about the size of a pickup truck: they’re about fifteen feet long, ten feet high, and about 13 feet wide. So a big pickup. The twelve immense wheels are arranged in sets of two, each pair
capable of rotating through 360 degrees, which allows my wee doggies to travel along sideways like a crab, if necessary. They’re extremely manoeuvrable, as a result turning on a dime like the very best barrel pony, and if you think that Clint had us vomiting with how he was throwing the rovers around the obstacle course then you’re smarter than you look.

Rovers don’t have seatbelts.

They should.

They should also have oh-shit handles and maybe even airbags. Going down a 55 degree slope sitting in something with a glass floor is enough to make you wanna cry for your momma.

Not that I did. But, y’know, you wanna.

What they do got, at least, is radiation shielding. Without it even if I got to Schiaparelli, I’d be dead in weeks, possibly even days. I’d be getting all the radiation Mars has to offer for the low, low price of total death. Back in the Apollo years they might as well have been fucking dune buggies: they were unpressurised, their batteries were one-and-done, and they had no shielding seeing as how they were completely open air, just a chassis with a seat.

Apollo astronauts did get bacon in their meals so maybe they still win this round.

I’d fuckin’ kill for some bacon. Every damn meal we got sent up with is lacking in bacon. Closest we got? Freeze-dried sausage pattie you gotta rehydrate with hot water. It tastes like nothin’ on Earth.

Ha ha.

But no matter how different my rovers look compared to the Lunar Roving Vehicles, R2D2 and Funvee are built off the same idea – a strong and solid chassis that can haul astronauts and cargo around this dust bowl.

What’s different is the cabin.

For a start, we got one which is good news for me – without a pressurised cabin I would have no chance of getting to Schiaparelli. None. Even if I could somehow change the oxygen filters while in the suit – I can’t – or recycle the same couple litres of water for 60 days – I can’t – I wouldn’t be able to eat.

The cabin is made up of two separate but connected portions – the cabin itself, and the cockpit. Stop sniggering you lame-ass. For some illogical fucking reason, you cannot get from the cabin and into the cockpit, or vice versa, from the inside. Nah, for some reason, you gotta go out either the airlock or suitport, hang a left, and go in the other airlock into the cockpit.

Who the fuck thought of that?

Airlocks are heavy. Really fucking heavy. They’re also expensive. They’re the part of any build up here that is most likely to fail due to the repeated expansion and decompression. They don’t sound real attractive, do they? Yet some fucker put two of them in the space of about five feet. Who thought that made sense? Lemme tell ya, it doesn’t. If Rogers and I went on a little expedition to find some happy lil rocks to hit with hammers, we’d have to get into the cockpit in our suits, drive to Nonsuchplace, Mars, cycle through and exit the cockpit airlock, take two steps to the left and wash and repeat.

Waste of time.
Waste of money.

Waste of payload weight for the rocket.

Illogical airlocks aside, the joy of the rover is that you don’t even have to put on a space suit if you don’t wanna. That ain’t laziness, like some fucking drive-thru donut shop, it’s being sensible. It saves on wear and tear on the suits. NASA doesn’t give a shit on the wear and tear on the astronauts, but the suits are expensive. Actually daring to use them for their intended purpose… NASA likes to avoid that as much as possible, so any way of not having to strap ‘em on is a-okay with them. It’s a plus actually – rarely is scientific equipment, delicate equipment half the time, designed with the user currently wearing about three layers of gloves in mind. Being able to have free range of motion is useful and being in a sweater and not a suit facilitates that.

But Bucky, how can you explore the Mars surface while sitting in a tin-can?

The cockpit can kneel. I ain’t shitting you. When we come up on a cool rock or an interesting bit of red dust, the cockpit can be lowered down until it’s only a couple inches off the surface, and with the floor of the cockpit made up of the same silica and borosilicate glass as the windscreen we can see right where we wanna. The space version has these cool mechanical arms that allow manipulation of shit outside the cabin, but some smartass clearly deemed us unworthy of something so helpful so if we want samples, we still gotta go outside, but we can run analyses with the instrument array that runs along the underside of the cockpit and on the undercarriage behind the battery. We got a bunch of the same sort of equipment as was kitted out on Curiosity and the MERs. Don’t ask me what the fuck half those things do, but they sure were enough to give our resident geologist a hard-on. Even Nat was excited by most of them, and that woman doesn’t get excited for anything. Our first parachute jump, she fell asleep in the plane. But she wouldn’t shut up about the interface between the doohickeys on the rovers and her beloved computers. I don’t give a shit about ‘em and while Barton had to check ‘em daily as the EVA specialist, I haven’t bothered – what the fuck do I care about the minerology of the rocks around me? If it doesn’t help me stay alive, it could fall off the damn rovers for all I care.

The chassis the cabin sits atop is called The Chariot. The cabin and Chariot were sent up here separately, and as soon as the Hab, and the solar array were set up, Rogers, Odinson, and yours truly had the pure joy of putting both rovers together, like a real costly kit-car, using the mini-crane on its inaugural outing to winch the cabin up and onto the Chariot.

The mini-crane is an example of the handy selection of gizmos sold separately, some assembly required for special missions, like my ma’s blender back home. I would love to claim that gizmos is the technical term but it’s just what we all call ‘em because we’re normal human beings that don’t live in some instructional manual. On the specs, they’re the Modular Work Packages. Who the fuck comes up with this shit? Did they swallow a thesaurus? Did they think Oversight would be more likely to pay for shit if they made it sound way fucking cooler than it is?

Although, a mini-crane is pretty fucking cool.

We weren’t important enough to warrant the bulldozer blade or the back-hoe (still fucking bitter about that, by the way. I’m a botanist, fer cryin’ out loud, I was sent up here to dig! Back hoe would have been very helpful, I’m just saying. Five tonnes of dirt. Five tonnes. I will never not be bitter) but we did get sent up here with the mini-crane, a winch, and variety of cables. The storm hit so early that we never got a chance to take the rest of the gizmos out of their packaging. I look forward to it, it’ll be like Martian Christmas.

Like the majority of mechanical engineers I know, I grew up playing with Meccano, whiling away my childhood creating one sort of structure or another. Why is that important? Maybe I just wanna
reminisce with you, is that a crime? Constructing the various masterpieces that came together in my hands, taught me what little patience I got and fine motor skills that left me in good stead for dealing with attaching gizmos to the chassis. Wanna know who didn’t play with Meccano as a kid? Thor. Watching his break down when he couldn’t get the winch to attach to the engine, was a thing of beauty. Wade captured it all on his phone, including the point where Thor lost his shit when he was told to just gently press the button after securing the winch onto the shaft.

Rumour had it that he did about twenty grand worth of damage to the electrical panel and almost ended up with Garner ruling him out as too hot-headed. He squeaked by with Garner taking into consideration the goading Wade had been throwing his way for about eight hours that day. Don’t let anybody tell you that Canadians can’t be sarcastic assholes. Maybe they’re all sarcastic assholes and the whole polite goody-two-shoes act is just the greatest long-con in history.

If Wade Wilson is any indication, Canada is taking extreme delight in stringing the rest of the world along in the world’s most lengthy long-con. The fact you don’t believe me right now – don’t lie – just shows how good they are.

I still think Houston was happy to hear that Thor was responsible for steadying the weight of the cabin, and was nowhere near the control pad or winch. I was just happy to find out there was finally something the dude was bad at. Maybe I kinda hoped it’d be sex or something, but I’ll take him being shit with construction if I gotta.

On the back of the cabin is something I’ve already mentioned: the suitports. They serve a couple purposes beyond the fun of freaking people out because it looks like a couple astronauts have been strapped to the back of the rover like some hunting trophy. But sadly, they’re just to save space; the cabin is super cramped. In emergency we should all be able to fit in the cabin, all six of us.

Bullshit.

Maybe, maybe, if we pretended we were sardines, we could just about manage it but we’d be stacked on top of each other. Not as fun or comfortable as it sounds. I’m betting ya’ll thinking, ‘well it’s better than death’. Shows what you know. If you can find one that ain’t in a museum, get into a phonebox with a few friends and make sure you close the door behind you. Settle in for a few hours. Then come and tell me that it’s better than death.

Pray nobody had a burrito.

According to the specs, the cabin can house two of us comfortably for two weeks should that be necessary. That is also bullshit. But hey, that’s okay, because I only gotta be in it by myself.

For two months.

That’s not the point. The point is that the cabin is small, and Natasha aside, most of us aren’t. The suits are even bigger. So if two people are in the cabin, and they took their suits off in the cabin, that’s the equivalent of four people, ‘cause some idiot decided that the prototype’s docking system that would have allowed us to walk from the Hab straight into the rover, no suit required, was unnecessary. Probably the same moron who thought two airlocks was a genius idea. And that nixed the little toilet pod that was in the original specs, attached off the side of the cabin. You know what else is in the original specs? Inlaid solar cells on the roof. That was cut from the surface version. I’m gonna hunt down what asshole cut all that useful shit out, and I’m gonna beat his ass so fuckin’ close to death. Fucker.

I know that’s kinda violent but y’know, if we’d had the fucking docking port, maybe we all could be on our way home instead of me being stuck here. We coulda bused over to the MAV and been
gone. All of us.

Thanks asshole.

The suits can’t really be folded and stowed away under the seat in front of you or the overhead bins, being careful because suits may shift during space exploration. Instead, the suitports were devised so that the suits could stay outside, saving space, minimising the amount of dust and shit that gets tramped into the cabin – ironically no vacuum cleaners in space – and relieves the pressure on the airlocks, while minimizing the loss of air that occurs with each pressurization cycle. Don’t get me started on how none of that fucking applies to the cockpit because you gotta use the airlock in the cockpit, there’s no other way to access it, so all the dust gets tracked into the most important part of the rover. Who wants a shit-tonne of sand and shit floating around the seven screens and complicated controls that make up the cockpit?

Who designed this thing?!

Y’know that joke that a camel is a horse made by a committee? I think that committee had a hand in the rovers. Certainly nobody who’d ever actually have to work one of ‘em.

Administrators, am I right?!!

Anyway, to use the ports, you make like Batman, open the rear hatch of the cabin to reveal the two packs, open yours, and slip ‘n’ slide into the suit. A certain amount of wriggling, swearing, and sweating later, and with the help of the instrument panel beside each port, you seal the hatch behind you and strut your stuff away from the rover in your suit. Getting back out of the suit is as comfortable as you’d imagine. Looking fucking stupid, you back up to the hatch and wriggle around until you can achieve a soft-lock of pack to hatch. You cannot do this with any dignity. As soon as you get the soft-lock, the mechanism takes over, hauling you backwards until hard-lock is attained. A few button presses opens the hatch behind you and you try and clamber backwards out of the suit with zero leverage. If you’re lucky, you get away with minimal bruising. I have yet to discover a way to get out it that doesn’t involve doing some sort of ungainly backwards roll that would shame even the most uncoordinated of toddlers. This is probably why Phillips insisted on, and took great enjoyment in, having us run drills with the suitports some five thousand times until he was assured that even exhausted and starving, we could manage it in under nine minutes.

Shut the fuck up with the laughing. Don’t think I can’t tell that you think it’s pitiful to take almost ten minutes to get into or out of a suit. To people who actually know better, nine minutes is basically the speed of light to remove an EVA. By all means, try on an EVA suit, see how long it takes. This ain’t the suit you wore to prom and practiced ripping off in case you got lucky. Oh yeah, Quill, you thought I didn’t know that, huh? Well, now the world does. Revenge is sweet.

Between the suitports and the rear of the chassis is the chariot-style aft driving station. Which is a real fancy way of describing two sorta turrets that allow an astronaut, or astronauts, to drive the chassis without the cabin attached. As there’s no cabin, you gotta wear your suit, making the seat in the turret super tight confines, but it’s useful if you wanna haul a few hundred pounds of Mars rock around. I know Rogers was meant to spend the first ten sols analysing local rocks before finally selecting a few hundred of his favourites to bring back to the MAV. The ridiculous name is because you look like you’re driving a horseless chariot. Never let it be said that NASA engineers aren’t nerds.

In front of the chariot-style aft driving station, at the very back of the rover, is the Work Package Interface. What is that in English? I’m glad you asked. It’s basically the flatbed of the chassis, but I guess that wasn’t considered buzzword-y enough or some shit. It spans the width of the rover, and is a few feet wide. It’s for transporting cargo around the Hab site, or bringing back big rocks or
whatever the fuck we find out there. I don’t think a UFO would fit on it, unless extra-terrestrial life is a lot smaller than we’d expected. It can’t hold as much as it would seem because on the right hand side, when facing the suitports, is the engine for the work packages which kinda crimps on the available space. Which is why I ain’t jumping up and down with joy at having a place to put the battery from the Funvee. The WPI isn’t actually wide enough – the battery is huge – and even if it was, I don’t think the cables for the battery are actually long enough to reach back there anyway, seeing as how the battery normally is housed just behind and underneath the cockpit, not ten feet behind it. Which is a shame, I was kinda hoping I could use my mechanical engineering powers for good and construct some sort of lovechild of a bike rack and a luggage shelf like they had on the back of carriages to provide the space for the damn thing.

Let’s face it, when it comes down to it, who’s gonna win the Regency wet t-shirt contest? Me or Darcy? Come on, you don’t even gotta think about it!

So, I can’t put the battery on the flatbed, I can’t put it on the roof – fuck even if I could I don’t know if it wouldn’t compromise the integrity of the cabin roof seeing as how it wasn’t designed to bear weight like that – and it can’t go under.

That leaves the sides.

Actually, it only leaves the driver’s side. However I attach the fucking thing, I can’t do it on the other side because of the airlocks.

How the fuck am I going to attach a battery to the side of a smooth surface that I can’t drill into in case I compromise the pressurized cabin?

No really, I’m fucking asking.

Unable to come up with a solution by the time lunch hadn’t remotely filled my stomach, I had no other choice but to haul my ass back outside for the afternoon festivities. No rush to figure out the battery – it’ll be charging all tomorrow so I got time to pull something out my ass.

Back outside it was man vs solar cell, astronaut vs array.

It took me and Thor 19 hours, over 5 sols, to put the whole thing in working together. Taking it apart was like one of those fucking math questions in high school I hated, and I’ve finally found my answer. It might not be the right answer, but it is my answer. ‘If it took two of us nineteen hours to put the array together, how long does it take one person with physical limitations?’

If you answered 38 hours, you’re all morons.

**Physical limitations, remember?**

I’m, at best, 2/3 of a the man I was on Sol 1.

The actual answer to this question is ‘a lot fucking longer than it took two people to put in, even though the one person is only taking half the array down.’ And that’s where the ‘wish I hadn’t woken up’ happened.

Things my left arm hates:

Twisting.

Reaching up above my head.
Bearing weight on my arm while it’s above my head

Twisting while bearing weight while reaching up above my head.

So wasn’t that hours of fucking fun.

It wasn’t easy. Sure they’re light and thin but they came with the added bonus that if I cracked them or damaged them the Hab wouldn’t be able to power and I’d be fucked. I might as well just take my fucking helmet off out on the surface.

You’d think it’d be easier second time round, like some sorta muscle memory should just take over and the panels would be down in minutes. You’d think the bastard things would have a little respect and play nice! You’d think they’d just unscrew all easy, come out sweet. Ingrates. After everything I did for them. Taking ’em out of their crates, making them a nice home on the array, making sure they were all secure, cleaning ‘em daily. I was the lowest ranked guy here, who do you think got the shit jobs? Sure, maybe NASA couched it in shit like ‘you’re the mechanical engineer, Bucky, you need to check them over every day, Bucky, we wouldn’t know if there was a problem, Bucky you’re so good at this stuff,’ but we all know that was bullshit. Maybe the damn cells just preferred Thor, beautiful, blonde giant that he is. I really miss that guy. He has this charmingly old-fashioned way of talking, maybe because English isn’t his first language. It’s like his ninth. Seriously. Maybe there’s a reason he’s the only married member of the crew; he’s gorgeous, he’s smart, he’s kind, he’s funny….okay he’s actually not all that funny but maybe his humour doesn’t translate.

No wonder the cells liked him best. Can’t blame even inanimate objects for swooning over the guy. Not to brag, but we were totally the best looking crew to ever go into space. Possibly the best looking crew of any crew ever.

Have you seen us?

Even Clint.

Y’all live in a world where the posters of a bunch of NASA nerds outsold the posters of America’s Sweetheart Trish Walker. I’m as shocked as you. Walker is a knock out, but for some reason the public wanted us on their walls instead.

Nah, I know the reason. Natasha Romanoff.

I bet the panels would have succumbed to her charms in seconds. There ain’t a lot in life that Natasha can’t get around, through, or over. She didn’t have the joy of the array – she was too short to effectively put together the framework, so was with Rogers, Watson and Barton putting together the Hab from the trash heap of supplies that NASA had shot up here. Over the course of five sols, the four of them made my kingdom appear out of nothing.

That’s right ladies and gents, I only got to spend one fucking night in the Hab before Hurricane Mars huffed and puffed and tried to blow my house down. One night after having to share cramped quarters with Wilson and Barton.

At the time they all bitched and moaned at Thor and I constantly, complaining our work wasn’t anywhere near as hard or intensive. Fuck ‘em. Once they laid down the flooring, it wasn’t like they did anything more than place the series of inflatable ribs, and watch the Hab rise. Sure, they had to dig a few…fine, a few dozen holes for the ground anchors, packing around the spike with a cousin of the suit resin. The Hab might tear, but it ain’t taking flight. Maybe there was a lot more shit involved in the Hab, but there were twice as many people on that, and they didn’t have their arms over their heads for days. They weren’t even grateful that they didn’t have to haul regolith bags over
the canvas as had been originally planned before some egghead came up with a better plan for radiation shielding.

My arm feels like it’s on fire. I might as well have been hauling regolith bags around. It’d have hurt less, that’s a guarantee. I had a job as a teenager down the docks and I have carried my fair shit of heavy bags, and that’d be preferable to what I did today. I can’t lift it in line with my shoulder, it’s shaking like I can’t describe and I really fucking want to make that spa day a reality. I’ve watched enough of Wilson’s drive to make some sorta quip about it only being a flesh wound, but I’m scared that if I laugh my arm will fuckin’ fall off. I always used to evade my sister when she wanted to go for one of them 2-for-1 days and her friends weren’t available, but right now I’d give my left nut for the opportunity.

By the time I was finished, the sun was just about to set, and the Hab was switching over to battery power as it did each night, the full array having charged them during the day. That meant 14 panels being disconnected from the grid wouldn’t cause any issue, but when I got back into the Hab, with only half the panels to recharge the batteries, I had to minimise the power drain so that the modified array wouldn’t struggle too much in the morning.

Call it a dry run for figuring out how to reduce the power drain on the batteries while in the rover.

LOG ENTRY: Sol 65

Once again TV has come to the rescue.

See, Ma? It didn’t rot my brain like ya always said it would. It keeps my insanity at bay and provided a solution in my hour of need.

Most of last night was spent staring at the rover specs and craving a beer. If I’d had alcohol I’d have figured it out in way less than time. I do some of my best thinking over a glass. Except that time when I agreed to follow some punk kid into space over a double of scotch.

Beer would probably help with the pain in my arm too. I’m all too aware that I’m racing through the vicodin, so although I eyed the bottle with something I’m sure Thor would have called yearning or some such shit, I reached for a couple anti-inflammatories instead. Out of desperation, when they provided little relief – aka fuck all - I cracked open one of the self-heating pads. Wrapping it around my arm and strapping it into place with an attractive binding of duct tape, I struggled into the arm brace once more and collapsed into my bunk, laptop on my chest, Firefly playing on the Hab’s systems.

I like puzzles. I like figuring ‘em out. I like there being an answer to work towards. Up here, I never know if there is an answer, let alone if I’m getting any closer to it. Hours I spent lookin’ at those fucking schematics of the rover, nixing plan after plan because they involved potentially compromising the integrity of the cabin, both its pressure and its radiation shielding. I didn’t have enough of the right cabling to build some sort of cage for it on the pickup. Even if I could get it to ride on the side of the rover, the weight of it all would be off, 750+ pounds might not be enough to pull the rover over sideways – the Chariot is too heavy, too low slung, and too wide for that shit because finally NASA engineers got somethin’ right – but it could damage the fixations of the cabin on the Chariot. If I ripped the cabin off The Chariot I’d be fucked, especially if it happened far enough away from the Hab for me not to be able to return.
Whatever I did had to be equal to both sides of the rover, spreading the load.

Which was when Mal, and the answer, rode in on a horse. Literally.

Always did have dreams about cowboys, but lemme tell ya, not one of ‘em ever involved Mars and slowly starving to death. The leather was still a part of it though.

Don’t tell my ma.

TV is a miracle, don’t let anyone tell ya different.

I can’t attach the battery to the side of the rover, but I can suspend it.

Saddlebags.

For Hab-related emergencies, like a puncture, NASA shelled out to fire an extra twenty square metres of canvas for repairs and some bottles of resin, like an extra-terrestrial puncture repair kit. We were never meant to try and save the Hab in the event of a breech, because that would be suicide, like trying to bail out the Titanic with a bucket while heavy objects are thrown at your head as they try to get through you to escape out the hole. Instead, we’re supposed to run like hell for the airlocks and use the time while it deflated to pull on our suits. Once the Hab was doing its best impression of a pancake, we break out the puncture repair kit and put out big-top together again.

I’d always been afraid of that happening. Not because of the danger of death, you come to terms with that long before you leave terra firma or you don’t leave at all. Nah, my fear was in search hundreds of square metres of Hab canvas for the puncture.

Needle in a haystack ain’t got nothing on that shit.

Spare canvas, you’ve met your new calling.

I couldn’t use all of it of course, that’d be risky and fucking stupid, even for me. Just because in the last couple months I’ve yet to experience a breach, doesn’t mean that in the next four years I won’t. There’s still a fucking MDV rolling around out there: one good storm and who knows what might happen.

Nah, I gotta be smart and keep some back.

But knowing what I wanna do isn’t the same as being able to do it.

For one, my craft capabilities are up there with my ability to phone home, and for another I woke up this morning to an arm that wants me to die. If I’d had a chainsaw, I’d have taken it off at the shoulder. I ain’t no hero, the second I could get out of bed – which involved screaming some words I’m pretty sure I made up but actually made me feel a little better - and the world had stopped spinning, my ass was heading to the med bay like I was pursued by wolves. My arm was on fire. I skipped the vicodin, and reached straight for the morphine. An injection would be faster.

Fast was good.

Very good.

I have gotten no better at drawing a hypodermic one-handed over the last couple months, though I guess seein’ as how I try to avoid using the morphine shouldn’t be a surprise. It took a few minutes for it to really take affect but god, when it did… I could have cried.
Once everything was delightfully numb, I wrangled the x-ray machine again, taking a new set of films so I could compare them to the previous ones I’ve taken. I’ve got ‘em up on Barton’s lightbox now. I won’t lie, firing that shit up felt kinda cool. Squinting at each image and trying to compare them, made me feel fucking stupid, seeing as how I had no idea what the fuck a healthy arm would look like.

Which was when I engaged my brain and took a rad of my right arm for comparison purposes.

Unfortunately it hasn’t helped a whole lot because I think the problem, and I feel pretty fucking certain there’s a problem, is with the nerves or muscles and an x-ray can’t really help me with that but I’m gonna take another image every 4-6 weeks to keep an eye on the bone.

I really don’t wanna have to drain another abscess because that was fucked up the first time round.

With my arm still strapped to my chest and weak as fuck out of the brace in any case, I couldn’t let my inner fashion designer out on the Hab canvas. I tried, after tracing out the measurements, to use the cutting tool and at least get the pieces ready even if I need both hands for the sticking together, but even with the wicked sharp blade of the tool, I couldn’t brace my weight properly. Tomorrow, even if it hurts like fuck, I’m gonna cut out and assemble my battery suspension device.

Taking the Mars Fashion Week catwalks by storm is The Saddlebag, By Barnes.

Well it is Kansas out there, might as well go as Old West as I can.

You think I should come out with a fragrance too? ’Mars for Men’. That sounds like a supersize Mars bar. Hmmm chocolate. God I miss junk food. I miss take out. I miss air that doesn't smell of...maybe a fragrance representative of Eau de Mars isn’t a great idea.

Using the rover schematics I was able to sketch out a rough concept for the saddlebags right onto the flooring with a pen. Back in high school, after my dad died, engineering lost its appeal, it reminded me too much of him, I just couldn’t…I just couldn’t. For a few months I dabbled with the idea of being an artist. I was always pretty good with a paintbrush, but I was better with a pencil, and I enrolled in an AP art class. Yeah, I know, I was a nerd even with that. I keep telling you I was, and one day you’ll believe me. For all of you that ain’t been in an AP art class and think that I was constantly surrounded by nude models or somethin’, congratulations you have the same mental capacity as Dugan. Be proud. Honestly, I dunno what I expected but the class was a lot more boring than necessary – there’s only so many different angles you can draw a bunch of flowers from, only so many ways you can manipulate light and shadow before you just wanna throw them out the window. But it did serve a purpose. Art got me back to engineering, got me back to my first love. I still got some skill with a pencil though.

You would not know that to look at my drawing out of the pattern for the saddlebags.

My ma used to make most of her own clothes, some of mine and Becca’s too, and she’s be appalled to see how bad I am at this. She can look at a picture of a garment and freehand a pattern in an hour. If she’s already got the fabric she can make the damn thing in a couple more. I think she’d struggle to realise what the fuck this mess is meant to be. Been staring at it so long trying to build up the courage to start cutting, knowing that it’s gonna hurt like fuck and that if I screw up I’m wasting a real precious resource, that even I can’t quite tell what the hell it’s meant to look like.

The more I stare at it, the more it looks like a Picasso rather than a Monet. Actually…it kinda looks like uneven lederhosen for a rover. Fuck. I’ve become one of those idiots that dress their dogs.
For the good of my self-image, I need to get my ass off this planet.

At least when it comes to putting ‘em together, I don’t need to rely on any skill on my end. The resin is seriously strong, more than capable of bearing the weight of the battery, after all it has to be strong enough to keep the pressure within the Hab. So I don’t gotta worry about making the strapping over the top of the rover any wider than necessary. Rather than make it one complete piece the width of the battery – which’d waste a lot of spare canvas – I’m going with two narrower straps that’ll attach to the pouches down the side closest to the rover and then loop underneath the bottom panels.

But Bucky, you said ‘uneven’ lederhosen.

Noticed that, did you?

Maybe my teaching is paying off.

Airlock, remember? Only one of the pouches is actually going to be the right size and shape to hold the battery. The other side is going to be shallower, but longer by several feet, suspended below the airlock. It’ll still balance the weight of the battery though.

Ain’t physics fucking grand?

I can make one side within the Hab, but the side that’ll house the battery is going to have to be done around it. I’ll prep it as much as possible, and then use the mini-crane on R2D2 to lift the battery up and then lower it onto what will become the bottom of the bucket-bag. All that would be left would be to use the resin to seal the sides of the pouch and attach it to the straps and voila. It ain’t gonna be pretty, and it ain’t gonna win any awards bar my unending gratitude – which I realise is worth precisely squat - but if I’m right, it’ll get the job done.

Bet you’re asking that if the battery is gonna go in one side, what’s gonna go in the other?

Mars’ single greatest resource other than me: rocks.

Because of my immobile arm, even the preparations for constructing the saddlebags took hours longer than it should have done and it was time for lunch by the time I was done sketching the cut-lines on the canvas. The morphine had dulled my appetite, and made me a little nauseated but I knew I had to eat something, forcing down a small helping of sweet and sour chicken soup and some more anti-inflammatories while I walked along my farm, checking the plants progress in their efforts to keep me alive.

After lunch I tackled another problem: how to store the energy from the panels in the rover batteries. I might be losing a sol – and fuck I hoped it wasn’t gonna be more than one sol before my arm calmed the fuck down – but that didn’t mean I couldn’t be somewhat productive.

Sounds simple, right?

This is how not to charge a battery from a solar panel – plug the cable from the solar panel straight into the battery.

Y’all would be surprised at how many people do that back on Earth. Sure, it starts off looking just fine, you get a nice stable charging voltage. Then shit goes sideways and the voltage starts to climb. Fast.

Why is that bad?
Because the battery will start gassing hydrogen and oxygen. Then the electrolyte will start to bubble, like it’s boiling. Shortly thereafter the battery will be fucked.

Meaning, I would be fucked.

So, what do you do instead? Thrilled you asked. Gather round kiddos and learn.

Use a solar charge controller.

An SCC is sorta like a supervising adult between the panel and the battery. It does just what it sounds like, it monitors the voltage of the battery through pulse width modulation. Y’all don’t gotta worry about it, but that’s just a real fancy way of describing a type of digital signal, and it essentially controls the voltage being fed by turning the switch between panel and battery on and off real fast.

Added bonus is, I can leave the whole thing to its own devices indefinitely with its SCC super-nanny. If I get distracted by some other shit falling down round my ears, or I fall asleep – and let’s face it, the odds are pretty even on either of those happening – my battery ain’t gonna go boom.

Sounds great, right? And it would be, if I had one.

We were never expected to want to charge a rover battery direct from the grid. Sure, the grid does provide the energy to the batteries in the Hab, but that’s a completely different set-up in there. The current from the grid runs through a hub in the Hab – try sayin’ that shit ten times fast – and then through a bunch more shit, before the excess is stored in the batteries. More importantly, the Hab batteries and the rover batteries ain’t the same animal. Good ole NASA standardisation at work. Even if I could steal the hub, I don’t know if it’d work.

As a result, the exact thing I want I don’t have. But never fear, I can make one. Well, I already made one. Helped along by Nat. Her boxes here are a fucking treasure-trove of teasing material and contain handy-dandy printed circuit boards. If y’all don’t know what they are, they’re a sheet of insulating material plated with a thin layer of copper. With the use of a couple of them, a resist ink pen, a bottle of etchant, resist ink solvent, a drill bit, and a plastic tub, I was able to construct the board I needed.

Remember how I mighta mentioned I was real handy with a rifle? Steadiest hands this side of the Mississippi. Not to brag or nothing but not just anybody could freehand a circuit, but with my hands I was fine. Well, hand. A vice replaced my useless left hand, holding the PCB to the table. Donning my favourite black mask, I dumped out some of the etchant liquid into the tub, flipped my boards upside down into it, and periodically gently swished the liquid around. I even remembered to wear gloves.

I know, I was proud of my safety protocols too. I’m growing as a person.

I had to wash the boards off real well after the etching was complete, which if I hadn’t made a pond’s worth of water I’d have been pissed about seeing as how I definitely couldn’t use that water after that, no matter how much I filter it. Can’t speak for you, but I ain’t drinking water that’s been used to rinse off a corrosive. Nor am I putting it on my plants.

Sorry Mars, but consider this my gift to you. You try and kill me, I pour corrosive shit on you. Maybe we can develop some sorta reward system: you be nice to me and I’ll be nice to you. You try and kill me again, and ferric chloride is gonna be the least of your concerns.

I think I can see why Mars hates me.

Removing the resist ink took the most time. It has to be done carefully and kinda slowly and with
only one hand, it took longer than I care to admit. A lot longer. Woulda been easier if I could just pour the fucking stuff into the tub and then wipe down the PCB, but that’d have melted the tub so that was a no go. After drilling some holes for the component leads – and fuck me did the vibrations of that piss off my left shoulder - I got to break out my soldering iron and, after almost branding myself – the board is really fucking small okay, it’s fiddly and my hands are big, and oh yeah I couldn’t use one of them properly even after releasing my left arm from the sling so I could hold the fucking miniscule pieces in place – I soldered my components, looted from the shit-ton of spare parts I got, in place.

It ain’t gonna win any awards, but I don’t give a shit about what it looks like, I only care that it does the job. Even with my usual confidence in my top-drawer work, I wasn’t about to hook it straight into the solar panels and hope it worked. And not just because the thought of trying to squeeze into my suit right then was making me wanna cry.

Instead of going outside – fuck I was gonna lose a whole sol to this shit – I ran a bench test on my DIY SCC. I hooked it up to a regulated power supply that was acting as the solar panel, and through a watt meter.

Exciting, ain’t it?

I ain’t gonna be offended if you say no.

Much.

The SCC worked perfectly. Which y’all gotta admit, is a nice change for me. I sat there and basked in my success for a while. I fuckin’ wallowed in it.

Gimme a break, it’s been a real while since something actually went right for me. I’m sitting on another planet, alone, with an arm strapped to my chest, talking to a fucking camera, recording a log that might never get seen, while surrounded by literal shit.

You gotta give me some time to roll around in the feeling of something going right.

We both know it ain’t gonna happen again real soon.

While the glow of success left me with a giddy, warm feeling, the wrap on my arm went cold a while ago while I was distracted with being awesome. I want to gnaw my fucking arm off, but as the heat helped I can’t justify another hit of morphine, and I really don’t wanna go down a road where I get myself reliant on that shit, not just because withdrawal would be a bitch, and because, y’know, suicide plan and all. Not that I’m giving up just because it feels like one half of my body hates me and wants me dead.

I didn’t get as much done today as I wanted – needed – so I pared down my already pitiful dinner and headed to my bunk. It’s ridiculously early still, at least for anyone under the age of about ninety, but there’s nothing else I can do with my arm trussed up, even with the heat pad on it, and without the sweet oblivion of drugs the heat pad isn’t enough to help me concentrate. I gotta get up early tomorrow anyway.

Early to bed, early to rise.
I apologise (again) for the delay - my medication causes me to be immuno-compromised and when I get a cold it's super easy for it to turn into a chest infection. Also because of my meds I can't take anything to ease it. As a result I've been miserable as hell having turned into Typhoid Mary. Combined with a medication change that has left me with less than no energy and my dad's 70th birthday celebrations I've had no time or inclination to write!
You Must Do The Thing You Think You Cannot Do

Chapter Summary

Bucky needs to start work on preparing the rover to get to Schiaparelli, but pain, and the mood swings that go along with it, hamper his progress. But there are some victories along the way.

Another sol another morning in which I woke up screaming.

I’m getting worryingly used to that.

As a kid I always slept on my left side. Grew out of it after I broke my wrist when I was 12 in an embarrassing, but fucking cool, incident that involved a sled, a hydrant, two fire crackers, and, inexplicably, an eyepatch. It was a real bad break, I had to walk three blocks home with parts of my wrist sticking out my skin, and was grounded for the rest of the year, let alone the rest of the summer. I was just proud that I hadn’t thrown up, unlike half the guys that’d dared me to…well, never mind what we were doing. I learned to sleep on my back after the first couple times I rolled onto the cast, but I guess I’ve reverted to my childhood and started to curl onto my left side in my sleep.

Garner would have a fucking field day with that shit. Probably come out with a bunch of terms that he’d win scrabble with, but mostly just win a punch off me for, probably bring in my dad’s death as the driving force, regression to a time I felt safe, protected, blah blah blah. I like the guy, honest, but sometimes, fuck me he was annoying. Maybe that’s just a psychologist thing.

Once I managed to drag my ass off the floor and had rooted around in the twist of blankets for the heat pad that’d come off during the night, I shuffled toward the main room, and its microwave, throwing the pad in and turning the power on.

Speaking of power, I have to test charge the battery today, even though I can barely move my arm, which’ll make the suit a barrel of fun. But it’s been almost a sol and a half since I removed half the solar array from the grid. Even with half of it still up and running, and my reducing the power demands of the Hab by lowering the temperature, as well as the lights, and switching off all non-essentials, the batteries were taking a hit. I gotta re-up the rest of the array by the end of the day. If the battery isn’t full by then, then I already have my answer – I’ll need to take more panels with me. If it is, but it’s too late to re-attach the panels to their struts, then I’ll just hook ‘em back into the system, propped up on the struts and let ‘em recharge the batteries properly tomorrow. It’ll give my arm another day to rest before doing exactly the shit that pissed it off the first time, just in reverse: reconstructing the array.

Just thinkin’ about it is making my arm throb like fuck. Maybe it was doing that anyway. I can feel my heartbeat in it in about three different places.

I still haven’t figured out a way to put my arm into a sling while in the suit, but lucky for me, the most important thing, attaching the battery to the solar panels to test the charging, required zero heavy lifting. All I gotta do is take my SCC and head out to the battery, hook one into the other and voila.
But while that’s all easy, there is a special hell reserved for the creators of the space suit. Once I got the fucking thing on – which might have involved a moment where I was a little too close to blacking out than I am strictly comfortable with - I vowed not to take it off again, which was gonna make getting my couture designer on later super easy and comfortable, but I was gonna have to leave New Brooklyn every couple hours to check on the battery and I was fucked if I was gonna go through that struggle numerous times. Hell, I might even fucking sleep in the thing.

It was the work of about ten minutes to find the cables I needed and twenty for me to figure out a way to do up the suit with the heat pad inside, and then I went for my morning stroll. I’d missed my chance to see a blue-ish sky of Martian dawn, but not by much. Who knew excruciating pain could be so effective an alarm clock? Unsurprisingly, the detached panels were, other than right where I left them, covered in a hell of a lot more dust than the array. Even using the compressed air brush, clearing them of it hurt like fuck, and seemed to take about half my life, but finally I could get to the actual point of the fuckin’ experiment.

Why does everything have to take fifty times longer than it should? Why does it always seem to involve hurting me?

Clicking the SCC into the solar panel felt like it should have involved some sorta round of applause or serenade of trumpets or some shit and yet nothing. There was nothing more than the winking LED as it pulsed and did its thing, slowly charging the battery.

Talk about anti-climactic.

Yeah, yeah, I know, I complain a lot, but still, this should have been some sorta auspicious moment! If there is any justice in the world, or I guess worlds, then there should have been something.

I looked away from it long enough to start the timer on the computer on my arm, before dropping my ass to the ground to watch the light wink, the readout on the meter and battery holding steady for fifteen minutes before feeling confident enough to leave the setup to its own devices.

While I was out there I checked on the rest of the array, reluctantly giving the remaining panels a not-so-thorough clean. I need to get the Hab batteries back to full power and the panels are far less efficient with the amount of dust on them that had built up.

I finally understand what Ma spent years bitching about.

Dusting is mind-numbing.

And excruciating. I had to stop and pant though the pain too many times to mention, trying to find a comfortable, or at least less agonising, way to rest my left arm on the framework of the array to brace some of its weight, the pain only worsening the longer that I was at work.

Even with half of the array detached, cleaning the panels took well over an hour, and I was so exhausted even my right hand was starting to shake, my breath coming in short pants as I made my trembling way over to the battery to carry out my first check of the sol.

Anti-climatically stable.

Look, it ain’t that I want something to fuck up, it’s just what I’m used to. I’m suspicious of things going well, left arm aside. It ain’t natural.

But a watched pot never boils so I didn’t waste the rest of my day staring at the battery. ‘Cos let’s face it, that’s not as boring as watching paint dry, it’s like watching it dry and then waiting for it to peel.
Besides, New Brooklyn, just like the old Brooklyn, had drugs.

There’s no place like home.

I left my suit on when I got inside, but wriggled out of the top part with a scream, to put my arm back in the sling, reheating the now-cold pad while I slurped down half a cup of stew and surveyed the saddlebags-in-potentia.

Barnes Farm is taking up the entirety of the floor space in the main compartment of New Brooklyn and the canvas is too large to fit on the work table anyway, so I dragged it, literally because it’s fucking heavy, down the corridor to the bunkroom, spreading it out best I could in there, which wasn’t easy. The bunk compartment has maybe enough from to swing a cat, but it’s got greater clear area on the floor than the med bay with its assortment of machines.

And the aforementioned drugs. I got no shame in admitting I caved and threw back half a Vicodin and then double the recommended dosages of paracetamol and ibuprofen. A little more rootling around in there threw up a bottle of Tramadol. I got no fucking idea if I can take Vicodin and Tramadol together, but fucking hell, I also can’t work like this either. At least I wasn’t entirely stupid about it; my room-mate at NYU was always instilling his questionable drug-related wisdom on me, and he told me that if you’ve never taken a pill before or you don’t know what it is, you take half. It’s real hard to take half a capsule so I limited myself to 50mg.

Don’t fucking look at me like that, you got no idea how much pain I’m in. It’s taking an almost herculean effort to raise my arm, all my athleticism outside only serving to make it worse. The stabbing pains are gone but it has been replaced by this bone deep ache, pervasive and draining, the burning just getting worse and worse and worse the longer I stand, like the bone is trying to fuckin’ burn its way through my skin. Just the weight of my own arm feels like it'll rip my body in half, like it’s not made of flesh and bone anymore, but lead.

Lying down is the only way to alleviate the pain a little. Sitting is shitty if the arm isn't supported, either in the sling or braced on my thigh. But standing...standing brings on a gnawing ache, so harsh and intense I want to cry.

Fuck Mars

Sixty sols.

I’ve had sixty sols of pain, of varying intensity of agony. Sixty sols of weakness, of shaking, of trembling. Sixty sols of never being allowed to forget that something is wrong with my arm. Sixty sols in which I don’t remember what it was like to be able to reach for something without instantly wincing, of having to stabilize the hand with the other. Sixty fucking sols of trying to convince myself that time will heal it. That if I wait another sol, another week, another month, the pain will have gone.

Because what if it doesn’t?

That’s the fucking question I’ve tried to avoid thinking for weeks now.

Not real successfully, huh?

But it’s hardly unfounded, as fears go.

What if this is as good as it gets?

What happens if I actually do live long enough to drive to Schiaparelli? What happens if I get part
way there and my arm gives out, if I can’t use it at all? What happens when instead of it taking me sixty days it take over a hundred because I gotta do everything one-handed? What if I don’t have enough food for that?

What happens if the reason I don’t survive this isn’t because I wasn’t smart enough, or that I didn’t find ways to get around all the shit that the universe or fate or fucking karma threw at me, but instead it’s me? How do I live, for the last moments of what will be left of my life, with the knowledge that it was my very self that led to my death?

Fuck!

Maybe I have an infection. Maybe this is some sort of fever-induced pity party. I really want it to be that. Because otherwise I’m starting to lose what is left of my ever-loving mind.

Apparently that only took sixty sols too.

Fuck the saddlebags. They ain’t gonna take that long to sort out, and I don’t gotta check on the battery for another couple hours. Guess I was right when I said I was gonna sleep in my suit.

Phillips would be so proud.

I just need to lie down for five minutes, try and get back on the arm’s good side. If it’s even got one anymore, the fucker. The medications are taking effect, my eyes feel gritty and heavy, and I wanna give into that exhaustion.

Just five minutes, Ma.

LOG ENTRY: SOL 66 (2)

I lied.

It was three hours.

But at least the pain has gone from a ‘cut the limb off with a sharpened spoon if given the chance’, to more of a ‘just-about-bearable, but at least stable’ level.

Doesn’t sound that much better, right?

Wrong.

Right now ‘just-about-bearable, but at least stable’ is a better feeling than sex. I ain’t kidding, it’s as close to orgasmic as I’ve felt up here. The relief is like nothing I can describe. It ain’t just the physical shit. Nah, that’d be simple. Pain is like the asshole drunk who shows up to a kegger uninvited with all his drunk asshole buddies; it ain’t content to just hurt ya. It’s fuckin’ exhausting, and my concentration is for shit. I knew, from the moment I woke up under my own personal sand dune, that I was gonna struggle up here. It just ain’t always the things I expected to struggle with. Food, water, energy, that’s shit I anticipated would be hard. Thing is, balls to the wall, that’s shit I can actually deal with, once I try and apply my brain to it. Y’know, explosions and imminent death aside.

But pain…I got no idea how to cope with it, not pain like this. I was a healthy kid, even with breaking a few bones. When my dad got sick, even when his body twisted and withered, he worked hard not to let it show, never let us see just how much pain he was really in. Take it from someone
enrolled, the Martian crash-course in agony ain’t worth the cost of admission.

Sure, the arm still fucking hates me, and possibly wants me dead, but I can breathe without white sparks branding themselves on my eyelids, I don’t feel like I’m going to vomit every time I move my arm, and I can actually focus on the saddlebag construction for ten whole seconds at a time.

I’ll take any progress I can, given I’m still raw as fuck.

I have also made the command decision that positive test result or no, I will only be reconnecting the missing panels to the Hab today, fuck screwing them back in. At this rate I’m gonna have to take it steady, none of this all in one day shit. I’d rather take a few days to carry out these experiments slowly, than try it all in a day and lose a week. I gotta listen to my body, and learn from the tortoise. A panel a day should be fast enough if I prop the other panels up on the framework so they better catch the light. Besides, if the battery doesn’t charge, I’ll only need to do it all again but with more panels and I ain’t doing this over and over. I fucking will gnaw my arm off.

I ain’t kidding.

Hell, maybe I’ll use the cutting tool. This thing is freakin’ sharp. If you’re a home sewer, then you might have something like what I got, but if not, it basically looks like a pizza cutter. A dangerously sharp – yes, I’ve already cut myself, shut up – pizza cutter. But about three times the size.

Fuck, I want a pizza. None of that thin crust shit, nah I want a deep-dish, gooey cheese, all the toppings pizza. I want artery clogging goodness and I’ve gotta settle for questionable meatloaf. If they’d sent me up with tomato seeds I coulda made some sorta shitty vegan cheese-less pizza with a sort of mashed-potato base…actually I take that back.

Nobody should ever do that. Don’t do that.

I can’t take another break, can’t take another nap, or be distracted by thoughts of pizza and the attention-demanding pain. I have to just grit my teeth and power through. So even though I can’t use my left arm to brace me, and I’m leaning way too much weight on a super thin blade to try and stay upright - which ain’t gonna do it, or me, any good - I gotta do it.

I’m the little engineer that could.

It is as hateful as I thought it’d be.

Even with the cutting tool’s wicked sharp blade, it’s struggling to get through the canvas. Shockingly, NASA made this stuff tough as shit, but dropped the fucking ball when it came to the cutting tool. In order to hold in excess of an atmosphere’s worth of pressure, the canvas is real thick, not like some flimsy pop tent you went camping on the weekends in. It’s gotta stand up to potentially sharp rocks getting thrown against it, any accidents within the Hab – like a moron that blows himself up – and that’s before we get to the radiation shielding treatment. Back when the Hab was being designed, NASA used to go down to Antarctica to carry out its tests to make sure it’d stand up to the hazards of an extreme environment, long before anyone started figuring out if people in spacesuits could even erect the fucker.

Spoiler alert, they couldn’t. It took another two years for the engineers to figure out a way, and it still ain’t a cakewalk.

Just like cutting the canvas ain’t. If it comes as a surprise to you that the canvas is tough as fuck, then you haven’t been paying attention to the shit its gotta contend with up here. The Hab is constantly under attack, either from shit like micrometeoroids or other debris that reach the surface
because the atmosphere is too thin to burn ‘em up like Earth’s would, or from bombardment from sand during high winds, rocks, and that’s before we get to shit like the people inside the Hab running experiments that go sideways. New Brooklyn is so strong that even me detonating a bomb in it wasn’t enough to bust it. It’s only able to do that because of the thirty years of research that went into creating this canvas so that after nuclear war wipes out the rest of the world, this canvas will be in one fucking piece.

It’s almost impossible to cut the bastard. It’s not just one woven fabric, nah that’s too simple. Its layers and layers of fabrics all bonded and sealed and coated. First there’s the air barrier on the inside, then the restraints, the micro-meteoroid and orbital debris layer, the external MLI layer – which is actually formed of many layers just by itself just to be fucking contrary - and the exterior BETA cloth, which is then coated in three layers of Teflon, like every other piece of cloth up here, including everything I’m wearing.

Bet you’re all giving me a little more respect for not being able to cut through that easily, even with the super tool. Wait, Barton is the super tool, this is just the tool.

Why am I bitching about how hard it is to cut this shit? Because it means I gotta run the tool across the same spot over and over and over and…you get the fucking point. I can’t just run the tool along the pattern once, I gotta saw at it and that means I also gotta put my whole weight down on the blade. Which is pissing the arm off. It’s also warping the blade, making it harder to follow the lines of my pattern. Same as cutting out a garment, if you fuck up the cutting, shit ain’t gonna meet up right and you’re screwed. I only got so much of the canvas, I can’t be cutting out a new piece just because I fucked up and cut a piece too small. All this means that just like everything else up here, what should have taken five minutes, has taken over an hour and by the end of it I was sweating like crazy and shaking.

But it was done.

Thank fucking Christ.

Just in time to struggle back into the suit and go outside to check on the battery. But this time, I’m figuring out a way to keep the arm braced in some way because fuck anything else. There’s not the room in the suit to keep the sling on across my chest, but there might be the room to wrap some gauze or shit around my waist or chest to keep the arm still against my body.

Huh.

Forget sleeping on my side in the foetal position again, Garner would get all giddy as a schoolgirl to know that I can’t seem to say ‘my arm’. I keep calling it ‘the arm’. Like I’m distancing myself from it or something. Like I don’t consider it a part of me anymore.

Maybe there’s some truth in that. I don’t know. I should have taken a psychology class at college, perhaps then I’d know what to tell myself, or what to do to help with that. Actually, I do know what would help.

I need a beer.

Fuck that, I need a *scotch*. A bottle of scotch. I got hundreds more sols up here, I can’t be getting introspective this early. I’ll go insane.

*More* insane.

In true adult, mature, grown-up fashion I dealt with this navel-gazing the way anybody who didn’t
want to deal with it would. I caused myself intense pain. If you’ve never tried to wrap gauze around your
self to trap one arm against your body, lemme tell ya, there’s little to recommend the experience.
After ten minutes of trying to wrap the bandage round my waist one handed and failing miserably,
about five minutes of trying to knot the end of the bandage round my left wrist as an anchor point and
*then* wrap it round my waist and back around, and another ten minutes of cursing, I did what any
good mechanical engineer would do.

I tried a different approach.

Fuck tying the arm down, the suit would be more than tight enough with the added bulk around my
abdomen to hold it pretty still.

Cue ten minutes of me trying to pull up the left side of my suit over my shoulder with my right hand
without my hand or the suit actually coming into contact with the —fuck, *my arm* — or jostling it in any
way. I was seconds from trying to wrestle my way into Gigan-Thor’s bulky EVA suit, considerably
larger than my flight-suit, when I successfully pulled the suit up over my shoulder with a curse.

Fuck the day I got abandoned here. Screw the day I blew myself up. This, today, is the *worst* day
I’ve spent up here. Survival can go fuck itself. Death has gotta hurt less than this.

But seeing that the battery was charging well, the current stable, was totally worth all the pain.

That’s a crock of shit.

It was totally *not* worth it.

Don’t fuckin’ look at me like that.

I know that I need it to work. I know I need the battery to be charged in a single day and that I
should be jumping around all happy that it seems it’s gonna work. I know I can’t survive otherwise.
But fuck me, seeing as how the charging is going perfect, all I can think about is that I coulda kept
my lazy ass inside.

From the interface on the Funvee’s battery, after a little over five hours of charging, it’s closing in on
95% full, much better than I was expecting. On an actual travel day I’d be charging two batteries,
ot one, so at almost 20% charge per hour, I’d need a little more than ten hours of sunlight per sol.
Back on Earth, the shortest day has around nine and a half hours of sunlight, and Mars’ winter is
similar but the sol is longer so I’d get a little more sunlight.

The fourteen panels should be enough.

Halle-fucking-lujah.

Just to be sure, I’m still gonna pack another couple panels if I can find the room.

Spoiler alert, I’m gonna find the room.

I’m also gonna find a buncha rocks. At the speed the battery is charging, in a few minutes it’ll be full
and I can disconnect the panels and hook ‘em back into the grid. No point doing the suit-shimmy if I
do n’t gotta, so I’m gonna spend the time finding the biggest rocks I can around here and making ‘em
into a pile.

Bet you want my fancy life.

It didn’t take long. Between the pain, and the small rocks around here, I only managed a pretty
pathetic cairn, nudging them along like the slowest game of soccer ever as I toed them into a pile next to R2D2. Instead I did what I do best. That’s right, ladies and gents, I sat on my ass in the dust next to the battery. But that’s not all, oh no. This super-efficient guy can sit and think at the same time.

Impressive, right? I know, I’m a catch. If I concentrate, I can even rub my belly and tap my head at the same time. Maybe not today, but normally.

What did I think about?

I spent five minutes wasting time wondering if I could rig up some sorta system to allow me to switch batteries automatically before deciding it wasn’t worth the time and effort, and instead lay back and stared at the cloudless sky and pretended I could see trains and elephants and trumpets, oh my!

I am hard-fucking-core.

Too hardcore -my back ached in a dangerous way as I bent to unhook the cables of the panels from the SCC and battery, little warning sparks of pain down my legs like someone was pinging rubber bands against the inside of my skin, the pain playing the part of a toddler on a sugar-high desperate for attention; no matter how hard I wanted to block it out, it poked at me, tugged at me, screamed at me to break my concentration.

Just like I never gave into the neighbourhood kids that Becs babysat no matter how loud they screeched, I refused to give into the pain, tried to push it back, push it down. I was nearly done. All I needed was a few more minutes, just enough time to return the panels to the array. I could push the pain away long enough for that.

Right?

I couldn’t just drag the panels back over to the lattice, it carried too great a risk of damaging the cells, so I had to lift each one. Who’d have thought that picking up large, thin panels weighing a mere 4kg would be so hard?

Oh, yeah, anyone that’s not had use of one of their hands, can’t bend over without pain and is wearing a human condom.

By panel five I had perfected my technique; take a knee next to the cell, lift one side so it was resting against my thigh, raising the rear corner up onto the back of my ankle to rest against my Achilles – ha ha fuckin’ ha – and leave a gap under the edge of the panel for me to get my fingers under, clamp my elbow down to press the cell against my side, grunt like a bull as I tried to lever myself to my feet without use of my arms to provide balance and then make my way to the array, walking like I was a drunk trying to convince a traffic cop I was sober - slow, deliberate and ungainly as hell.

Didn’t fall over though, gotta gimme that.

Fuck that’s depressing. The best thing I can say about my accomplishments of the day is ‘didn’t fall over’.

I have really lowered my standards.
You think all that shit would count as a workout? My quads would say yeah. Phillips would be appalled. He had us running HIIT drills for almost two hours a day, with another hour of weightlifting. If I were this slow back on Earth, he’d be in my face screaming something about skinny boys that think they can be astronauts. I think he got off on seeing us inches away from death. I was pretty fit before I entered training but that jackass whipped me into shape. It’s taken only eight months and a handful of death-defying feats to backslide to the sorta strength level a toddler would laugh at. The distance between the panels and the array was pretty fucking short, but it felt like miles, every damn time. By the time I got to the framework, I was outta breath each time, practically fogging up my damn helmet because I was panting so hard. By panel ten my legs were shaking and my right arm was protesting the strange angle and unbalanced weight of the cells. I ignored it all, blocking it out until all fourteen panels were leaning against the framework, each one roughly where it’d come from, careful not to let them overlap or knock into each other, with plenty of hours left in the sol to recharge the Hab batteries. Hooking them back into the grid took less than ten seconds, and I was back in New Brooklyn, about to take off my helmet when it occurred to me how stupid it was to leave them like that.

Can ya tell why?

For those of you who can’t, I’ll give y’all a hint: what got me stuck here?

Storms.

Even though the weather stations weren’t reporting any sizeable wind speeds, the likelihood of a panel getting knocked down by a strong wind was pretty fuckin’ high because it’s me and Mars hates me.

Feelings mutual, jackass.

If I thought moving the panels one handed was difficult, taking apart my amateur-BDSM gear to get some of the straps free to lash the panels to the lattice was worse than the one time that I tried to solve the NYT Saturday crossword. I was able to give up with that, and possibly, maybe, though I ain’t confirming nothin’, take it to the roof of my apartment building and set the fucker on fire so that Becca could never ever see how badly I fucked it up, but I had to get those straps free, I couldn’t give up which only made it even more fuckin’ frustrating.

I ain’t gonna give you the satisfaction of knowing how long it took me to get the straps free, but suffice to say I had to drag the mess into the Hab to take my helmet off to save filter time. Hard to believe that Becca always used to ask me to do up and undo her laces when she was too little to do it herself, and when she was older she and Ma always used to ask me to untangle their necklaces. I was even the reigning king of unravelling the Christmas lights for just about half the families in my ma’s building and I can’t undo a few fuckin’ knots.

It took almost as long to get the straps lashed around the panels, securing them to the framework of the array, but by the end of it, all 14 panels were fastened in place, and Mars could huff and puff all it liked. Sure, I had to sacrifice a small amount of efficiency of each cell where the straps looped over the surface, blocking out the sunlight, but it was pretty negligible, and fuck it, it ain’t gonna be up like that for long; soon as my arm cools its shit, I’ll reattach ‘em properly.

That’s probably gonna be a few days.

Now the scientific part of the day is complete, it’s time to get crafty.

Shedding my suit was a special kind of hell, but knowing it was gonna stay off gave me a fuzzy
warm feeling inside. Or maybe that was the agony of releasing my arm from where it was strapped
down, the marks left by the bandage an irritated red and itchy as hell.

I have yet to find a situation I can’t bitch myself through.

I know, I know, I’m impressed with myself too.

While the heating pad did its time in the microwave, I rummaged around in the various boxes of shit
that edged Barnes Farm seeking out the bottle of resin. In hindsight, I shoulda probably made lists of
what I put in each box, taping ’em to the lids, but you can probably guess I ain’t quite that smart.
There are still boxes in my Houston apartment that I never got to unpacking even after damn near
eighteen months down there, and you don’t even wanna know the shitfest that was me packing to
move out of the dorms…

I found it nestled under one of Steve’s sweaters, amidst some of Thor’s chemistry beakers and spare
lenses for one of the microscopes. After a moment’s thought, and some squinting at the box’s
dimensions, I awkwardly tipped the thing up on one end and unceremoniously dumped the contents
out onto the Hab floor.

Ain’t like it can get much messier in here.

Designers have mannequins to shape their garments around, I got a box. It’s only a few inches off
the size of the battery, a couple inches bigger all round, and with limited use of my left hand, having
some structure to build the saddlebags around is gonna be invaluable. To that end, I grabbed a roll of
my favourite duct tape.

There is nothing duct tape can’t do.

Down in the sleeping pod I placed the box, along with Nat’s box of stuff because the storage box
ain’t big enough to fill the rock pouch fully, onto the bottom panel of the long, shallow pouch and,
using my teeth, ripped off a strip of duct tape, attaching one half to the top of one of the side panels
and sticking it down to the side of the box, holding it perfectly in shape. Another strip of tape went
onto the top edge of an adjoining short-sided panel, but I left the other end free, like a little tab that
when the time came, I could grab, line it up with the resined portion of the adjoining panel and then
stick the tape to the side of the box while it set. I did that to the other two sides as well. Speed is of
the essence when dealing with this shit.

Then came the strips that’d act as the harness. I was gonna start with them first when it came to
lining up the ends so they would go down under the pouch for added support. I laid ‘em out flat, or as flat as I could in the limited space, and lined the box and prepped panel up over the end, and
reached for the resin.

The resin in the large boxes is like PVA glue for kids – the screw top has an attached brush. But this
is NASA so you know it’s cooler than art time in a pre-school. When this stuff comes in contact with
air, it sets in seconds, and in my current state I wasn’t gonna manage to use the brush to spread the
resin and then get the top on the bottle again fast enough that the resin inside the bottle wouldn’t start
to set.

To that end, the brush is on the outside, attached to a hollow nozzle, that has a one-way seal at the
lid, allowing only a couple tablespoons of resin past it to saturate the brush. You squeeze the bottle,
resin feeds up the nozzle, past the seal into the brush, you do your Van Gogh impression and then
snap the top of the nozzle, including the brush which is already setting solid, off. The seal stops air
getting to the resin in the bottle, keeping it liquid. Sounds wasteful – and it is – but better to replace
the brush each time than the resin.
I’m gonna be going through a lot of brushes, and at the rate I’m creating trash, I’m gonna have to annex it into a little heap outside. Then it’ll really feel like New York up here.

Kindergarten art skills, don’t fail me now!

LOG ENTRY: SOL 66 (3)

My crafting skills have not improved since Kindergarten which should surprise nobody.

There were a few teething problems, but I did what I do best – charged on anyway. Brute force and ignorance, the Mars motto.

I started with the straps, coating the lengths in resin and folding the bottom and side panels over the top. I fucked one up – shocker – so it’s kinda diagonal and not straight, but it should hold anyway. I learned for the second; I duct taped the strap to the Hab floor by folding the tape over on itself for a poor-man’s double-sided tape and then stuck the strap down. Resin, panel, repeat.

Then I moved on to the opposing long side panel, securing the two short sides to it, and sticking their duct tape tabs to the box lid to give it shape. I wanted to give the resin time to really set before moving the long side with the straps. I know I said this shit sets in seconds, and it does, but c’mon, wouldn’t you wait a lil’ while just to make sure?

Not like my life depends on it or anythin’.

After I finished the first side, I gave it another half hour with the box, while I stuck the straps on the other side to the underneath and side of the second panel, and set up the tab system on that side too. There was a moment’s excitement when I wiggled the box free of the pouch – fuckin’ difficult with one hand, lemme tell ya – and the pouch held, but I didn’t let myself wallow in my genius for long. Only about five minutes.

I didn’t complete the whole pouch on the other side – I wanna build it around the battery. Why? ‘Cos it’ll be easier to move the battery into the pouch with one side open and then seal the pouch around the battery, than thread the needle of trying to perfectly lower the battery into a completed pouch. I sealed the two short sides onto the long side with the straps and then left it taped around the box. In a couple days when my arm is feelin’ like playing ball, I’ll fuck around with the mini-crane. I’m gonna need both hands for that shit – one to stablise the battery as it lifts, and the other for the controls.

Who is the most efficient guy on Mars? You can applaud. Really, you can. Any moment now. Standin’ ovation would not go amiss.

I can wait.

I rewarded myself for a day well spent with the other half of that freeze-dried ice cream packet and half a protein brick for dinner. I deserved it – my testing was successful, I made lederhosen for a rover, and I didn’t hack off my arm with a spoon or stick my hand to anything with resin.

Y’all proud of me, I can tell.

Did discover there’s is a downside to the sleeping pod being my craft corner – the resin fuckin’ stinks and it ain’t like I can open a window. That’s right, even basking in my brilliance, I can find something to complain about. I’m taking my pillow and blankets down to the medical bay and
camping out on the bed down there if it doesn’t get better.

**Log Entry: Sol 67**

You know how people always tell you to ‘sleep on it and you’ll feel better’?

Fuckers are right.

The medical bay sure ain’t the Ritz, but between the exhaustion and half a Vicodin, I was out for over ten hours and fuck me I feel better. It’s amazing how not falling outta bed can have you feeling like a whole buck. Maybe even a buck-fifty.

What did you think I was gonna say, a million dollars?

Seein’ as how yesterday I couldn’t even scrape together enough positivity to make up a nickel, this is a real improvement.

I’ll take what I can get.

How am I gonna celebrate this new found zest for life?

That’s right, manual labour.

I’ve spent the better part of four days ignoring my beloved plants and I don’t want ‘em to think I don’t love ‘em anymore. That, and I’ve been keeping a log up on the west wall of the Hab of all the hours of that precious golden 1,500 that I’ve burned through and the number is staggering. Besides, I need some work that I can do with my arm strapped down at all times and even I can dig a hole with only one hand.

My ass needs to stay inside for a day or so. After yesterday, the array can handle a couple days without being cleaned and the breeze registering on the weather stations is barely stronger than a mouse fart so the dust haze ain’t gonna cause too much of an issue.

So for today, a very important day, it’s back to being Farmer Barnes for a while. Due to the lack of weeds or pests, maintaining the plants has actually been pretty damn easy now the death-defying fuel into water creation business is done with; nothing is predating ‘em, the lights provide all the artificial sunlight growing greener could want, and the Water Reclaimer is keeping the area within the plastic sheeting good and moist so I don’t gotta water the soil often.

But today, all that is gonna change.

Today is the one day that Nanny Hab can’t take care of the plants for me. But I’m lookin’ forward to this, so getting up to my elbows – elbow, my left arm is once more strapped to my chest ‘cos even after a pretty decent night’s sleep has improved my overall mood it’s still pissed as fuck at me – in dirt is gonna be a pleasure. It’s been 39 Sols since I planted my potatoes and it’s time to reap and sow.

I know that sounds super short – back on Earth even the earliest of early season potato varieties needs about 70 days to reach maturity but my potatoes have the absolute best conditions for growth
so they’re ahead of the game. I also don’t need ‘em to be perfect, I ain’t gonna be eating them. I’m gonna be cutting ‘em up and replanting, just like I did the first time.

My lil’ babies, they grow so fast.

It feels just like yesterday when the first stem appeared and now here they are, heading off to college…

When the first shoot pushed up through the dirt, I stopped dead in my tracks, dropping the shit I was holding. Unfortunately it was literal shit which lead to a real disgusting laundry day, but that ain’t the point. There, just in the corner, the second row in, was a small green stem. If you think I sat my ass in the dirt and ran my fingers along that beautiful bit of foliage and crooned at that plant while bawling my fucking ass off, you're damn fucking right.

If anyone else had been on the planet I’d have turned into one of those super obnoxious parents that has thirty pictures of their drooling baby in their wallet and shows ‘em to everyone, while goin’ on about how their baby is the best baby to ever baby.

Except for how my plant was better.

My plant grew on an inhospitable planet and would keep me alive until I could get off this rock.

Babies just sleep, shit, and eat.

I got a picture of that first plant on my wall. I got video. I basically held a fucking photoshoot for that little green miracle. It was practically potato porn. Think there's a market for space potato porn? Could call is Lust In Space, which I’m pretty proud of.

Wonder if that's good money...seems like it'd be a niche market.

For the first time since Sol 6, I wasn’t the only thing alive here anymore. There was life pushing its way through the soil, reaching up towards the light, living against the odds.

I wasn’t quite so alone.

And now the day has come that I can put their growth to good use.

I’ve shared a lot of my mechanical – and sartorial – genius. Now I’m gonna gift you with some of my botany brilliance. Gather ‘round kiddoes, you’re gonna learn somethin’.

Today is my first harvest day, but how do I know? My crop is hidden away underground, covered over by all my hard-won soil. I don’t wanna go digging around and disturb shit if they’re not ready; that can just damage my precious plants if they ain’t ready and that damage to the root system can severely retard their future growth.

So short of ripping the ground penetrating radar off the belly of R2D2, what the fuck can I do?

Listen to Mother Nature, dumbass, ‘cos she’s real smart about giving hints and clues if you know where to look. Thanks to me, you’re gonna learn. I’m a mensch like that.

A couple weeks after planting, fine root hairs will begin to be produced. As they grow, nodules form on the roots that’ll grow into juvenile tubers – my future food source. Out of sight, over the next few weeks, they’re growing, but above ground the plant is telling me everything I need to know. Bet some of you never knew that potatoes have flowers and fruit? How do you think they pollinate? They don’t produce nectar so bees kinda ignore ‘em, but that’s okay ‘cos they self-
pollinate, possibly to the soulful tunes of Marvin Gaye off Sam’s drive. The flowers, though pretty, are basically useless to me because they divert energy away from the tubers. I don’t want that, so I pinched the flowerheads off soon as they budded, though I let a few plants bloom, pinching the flowers off after. Ma always used to keep flowers all over the apartment, anything that was bright and colourful, from large sunflowers to small peonies, there was never a room without a plant. I kept the flowers in a couple Tupperware size tubs filled with water.

Made the sleeping pod more like home. Guess I can thank Ma for giving me my start in botany. Thanks, Ma, you’ve saved my life.

My crop is small enough that I can tend ‘em daily and remove those buds, but back on Earth, if a farmer’s got a big crop, they probably don’t bother. It can be real beautiful to walk though flowers of ‘em. But I let those few plants flower for another reason too – when the potato plant starts to flower they’re reaching maturity, meanin’ the tubers are growing nicely.

So that’s how I know they’re ready – the flowers have bloomed and now died off and I get to go digging. If I didn’t remove those flowers, they could have developed into the fruit of the potato, sometimes called the ‘apple’, but they actually look like tomatoes. Bet ya didn’t know that potatoes and tomatoes are related, huh? They’re in the same family, the nightshades. Yeah, potatoes are related to deadly nightshade. Those apples? Poisonous, especially to kids. Because that’s what I need up here, yet another fuckin’ way to kill myself.

Let that be a lesson, any budding botanists: if you got kids, and your potato plants produce fruit – they don’t always – pick ‘em and get ‘em outta reach of kids. They’re bitter as fuck, but they also cause nausea, severe abdominal pain, diarrhoea, shock...do not eat things that look like green tomatoes on potatoes, no matter how much fried green tomatoes might be a delicacy to some people. Weird, wrong, people. It’s also, ‘cos it’s good for ya to learn new stuff, why potatoes that have been in the sun during maturation go kinda green, and are bitter. The solanine in the berries that is poisonous is also in that green flesh. It’s why you should store potatoes in the dark, even after picking. Hell, maybe that’s why people think green chips are poisonous. I’ll add it to the list of shit I’ll probably die not knowing.

I’m getting off track.

Fruit contains seeds, right?

Right.

I need lots of potato plants, right?

Right.

Plants grow from seeds, right?

Right.

So I bet you’re scratching your heads wondering why the fuck the professional botanist doesn’t want to let the fruit grow and harvest all those lovely seeds.

Because I’m the professional botanist, not you, and I know better than you.

True, I could cut open the berry and remove the seeds. Easiest way is actually to mash the berry and then drop it into a glass or tub of water and leave it for a few days. Come back, remove the muck and shit from the top, strain out the water and voila, potato seeds are sitting there at the bottom.
Sounds good right?

I could have more plants – each berry contains a multitude of seeds, just like a tomato. Surely that’d be awesome. Maybe then you’d be free of my bitchin’ about how I’m gonna starve to death.

Not likely.

But I only got so much in the way of resources – I could have a million seeds and they ain’t gonna do any good with the amount of soil and nutrients I can offer. It’d be like trying to park fifty cars in a five-space lot. There ain’t the room. But that ain’t the only problem. Way more important is that using my current method of seed potatoes, I can get viable tubers in 40 days. If I wanna grow a potato plant from seed, it’s gonna take *years* to grow to a stage I can actually get potatoes out of it.

F**kin’ years.** I know I’m gonna be up here for years, but I ain’t wasting soil and fertiliser on shit that might never grow enough to be of worth. I got priorities. I can make the plants I need using seed potatoes, just like I’m doin’ now, and it’s gonna be a hell of a lot faster, lemme tell ya. Growing my seed potatoes to maturity enough that I can dig ‘em up and repeat the cycle has taken 40 days. Growing a plant from the seed I’d get

Every plant is gonna produce around 3-6 pretty decent sized potatoes and a handful little ones with enough eyes to be planted themselves after I introduce them to a sharp knife. With all my plants ready, I’m gonna get enough seed potatoes to make up a lot of the rest of the farmland. In another 6-7 weeks, I’ll be able to start supplementing my meals with sweet, sweet carbohydrate goodness.

It’s gonna take me all day, especially with only one arm, but it’s doable, especially if I stop sitting on my ass talking to myself. At the moment I got roughly 60 plants. Even if there’s only one tuber per plant – and there’s gonna be more – it’ll net me 200+ seed potatoes. The new holes will take me only a minute to dig, I can use the trowel, and all I gotta do is make a deep enough hollow. It requires no delicacy whatsoever. It’s just real fuckin’ time consuming.

Digging up the potatoes…that’s another story. Once the stems reached 20cm in height weeks ago, I started earthing up, mounding soil around the base of the stems. That increased the length of the underground roots – *God fuckin’ willin’* – meaning the plants will bear more potatoes.

Oh yeah, I know my shit. Botany brilliance, remember?

However, getting at those potatoes requires a gentle hand, and that’s all I got. A hand. I can’t risk damaging the root system with the trowel, instead I get to get up to the elbow in soil threaded through with my own shit.

Does NASA have no Health and Safety Department?

All this goes right, and I might actually survive this fuckfest. All I gotta do is *gently* dig out the mature tubers by hand – do y’all even know how much I could charge for those fuckers back on Earth? We’re talking Grade A, organic, hand-crafted hipster farmer bullshit. I could fuckin’ retire - being real careful not to disturb the plants themselves and stack my ill-gotten gains by my table. I’ve already set up the vice I used when I was etching the custom PCB on the edge of the table, though it ain’t exactly perfect. I might have to release my arm just long enough to cut up the potatoes I get, but I’m gonna do everything I can to avoid that. My arm was pretty fucking emphatic for most of last night that I could go fuck myself thank you so very much, and even though I’ve dosed up on NSAIDs, I wanna get back in its good books so that tomorrow when I take the nearly completed saddlebags outside to finish construction around the battery, I can actually use both arms.

Right now, however, my arm is happily strapped securely to my chest, wrapped in the heat pad, all
that was left to do is select the entertainment du jour, and today it’s Sam’s turn to dazzle me. I’m not in the mood for anything on Clint’s entertainment drive, and Natasha’s skews pretty hard towards adaptations of the Classics, although there are what look to be vintage spy novels. There’s only so much suffering in the snow that a fella can take when he’s suffering in the dust. Most of Thor’s stuff is in a variety of languages I don’t understand and doesn’t have subtitles. Don’t get me started on what he calls music. It’s not as bad as Nat’s disco – there are plagues that weren’t as bad as that shit – but fuck…is throat singing really a thing? It’s not some shitty cosmic joke? And he listens to that on purpose? I’m desperate for some entertainment, but I ain’t that desperate.

You might ask why I’m always snaffling my crewmate’s entertainment drives.

A good question, why has it taken you so long to ask?

I didn’t bring my own drive down to the Hab. I thought I’d be too busy and barring the disco and trance shit Nat likes to listen to during her designated workout hours, I’m pretty happy listening to whatever is on so I left it in Valkyrie.

I’m an idiot.

God I miss my iPod. Like a missing limb. All those gorgeous playlists being wasted on – if I know my friends – Clint. So help me, arrow-boy, if you so much as delete one song or upload one single bar of Britney Spears onto it you better run if I get back…

Going spelunking through my crewmate’s shit sure is eye-opening, particularly in regards to our intrepid pilot.

Wilson has birds on the brain.

I’m not kidding. Nor am I talking about women

He has hours and hours and hours of footage of birds on his drive. Bird related novels. Bird books. Bird song.

I’m gonna tease the shit out of him after this.

He always said he was nicknamed Falcon at flight school because of the boxing team, but I think this is the truth. I think Falcon happened way before that. I’m thinking that name stuck to the nerd back in grade school.

First Halloween after I get back – if I get back - I’m dressing up as him and going trick or treating. Think I’d look good with a goatee? Does anyone? The Falcon will fly again! Maybe Sam’ll lemme borrow Redwing. For those playing along at home, y’know how Clint had his dog in his official crew photo? Sam had his falcon Redwing. Don’t ask me what the fuck kinda bird it is, but he’s real pretty and probably the love of that dork’s life.

He also has a tonne of wildlife documentaries and I feel like I’m getting personaly dissed by David Attenborough. He’s got the whole ‘Life’ series from a few years ago on here and not once in the opening sequence did it show a shot of Mars. It’s like there’s no life up here.

Rude.

But he is good for a little Marvin Gaye, so since we’ve got to be here, let’s get it on.
Log Entry: Sol 68

Did you know that way back when the book on Natasha’s reader was written, ‘solid dick’ was slang for ‘straight talk’?

I didn’t.

I almost pissed myself laughing my ass off. Given the context I was really starting to think Natasha had vintage gay erotica or something – it’s not my fault. It was a detective trying to shake down a suspect, had him all pressed into the wall, faces less than an inch apart, bodies pressed together talking about how they had to get down to ‘solid dick’... You know how many pornos start just like that? UH DUDE REDACTING THIS FOR MY MOTHER TO READ CAN YOU BLACK THAT OUT?

It wasn’t until this morning that I discovered that Nat’s book collection is gonna be as disappointing as her music taste; I got about three pages into the novel before I fell comatose, promity dropping the reader onto my face in the process. It was still there when I finally came too this morning.

I was right when I said all the work I was gonna be doin’ yesterday was gonna take time. It was also pretty exhausting. By which I mean, fukin’ draining. I started by digging new rows, and got my time down to fifteen seconds per hollow. There was zero mastery to it; grab trowel, shove into ground, twist a quarter turn, lift, discard dirt, move on.

After I prepped fifty new hollows, I downed trowel and shuffled my ass over to my first plant, settling in next to it. I brushed the dirt away as gently as possible, feeling out the root system and using my fingers to follow them down to the tubers, I scraped and clawed as much of the dirt away as I could to reveal the full growth.

Second time I was right; there were plenty more than one mature tuber on that plant. There’s a lot to be said for this organic, tenderly-reared, pandered-to produce – there were seven. I took the three biggest and left the rest, covering them back up just as carefully as I had revealed them.

There’s no words to describe how I felt when I saw all those tubers. Even with the plants growing healthily, the flowers blooming and the apples appearing a part of me was expecting there to be nothing beneath the dirt. That all my efforts were for nothing.

That woulda killed me.

For once I’m not gonna bitch about pain. My cheeks ache from how much I was smiling yesterday and I couldn’t give a shit. With every plant carefully excised, every mature tuber added to the pile by the available bench, my cheeks burned but I felt like I could breathe for the first time in weeks.

I can actually survive this. My plants can actually do it.

I know it ain’t enough, I know that, but it’s gonna give me more time. More time to find another way, for me to figure out how to talk to Earth.

I can survive.

I was down on the farm from before dawn and way past sunrise, working like a machine, alternating between collecting potatoes and digging new hollows. I was right; trying to cut the potatoes up with the vice was difficult, but if meant keeping my arm immobile – see Garner, I can say my – I just accepted that it was gonna be a time suck and moved on. It took all day and most of the night, but
standing on the edge of the field, and looking out over it, knowing that every single fucking inch has been planted, that in a mere forty more days I can start harvesting for food…

The feeling is better than being told I’d made the Ares 3 crew.

Better than graduation.

I needed it. After everything…after the accident, the pain, the explosion, the fucking fight I have to win just to survive each day…

To stand here and know that I accomplished something. That I can do this, that I can survive…I just really needed it. I know I’m a real optimistic fella, but more than a few nights I’ve lain awake staring at the top of my bunk shaking with how fuckin’ terrified I am.

Not last night. Last night I slept the sleep of the exhausted and the elated.

Oh, and the full.

Yeah, I just so happened to have one whole potato left over when I was done planting the crop and what could a fella do but nuke it and douse it in salt and gorge on it?

I could barely finish it, so unused to eating such a large meal, but don’t worry, I struggled through. Lay on the bunk and rubbed my stomach for about an hour, but I couldn’t regret it. For the first time in weeks, I didn’t go to bed hungry.

It’s a real good feeling, lemme tell ya.

Can you guess what I had for breakfast?

Go on, give it a try, you know you wanna.

I busted out a burrito.

You thought I was gonna say potato, didn’t ya?

I was saving it for my birthday, but y’know I think I need it now. I need to celebrate. Because of this field, because I worked my ass off, I got a chance to see many more birthdays. I can have burritos then. Right now, I’m gonna stand here, watching my farm and toast my success with gooey, cheesy, goodness.

Speakin’ of working like a machine, I currently look like the T1000.

Guess that doesn’t mean as much if you ain’t seen the Terminator series. Take it from me, y’all can pretty much skip 3, 4, and 5, they’re shit. 6 is decent, but 1 and 2 are masterpieces. Especially 2. God bless Steve for copying whatever list he did. There’s the entire Terminator franchise nestled right next to the Rocky series and the entire Star Trek catalogue from TOS to Discovery.

Nerd.

Back to me, ‘cos this is my autobiography and I’m most important. How do I look like the T1000 when my muscles are wasting away and Schwarzenegger could snap me like a dry twig?

I’m glad you asked.

I can’t wear the heat pad comfortably in my suit because it’s too bulky, but heat, concentrated heat, makes my arm easier to bear. This morning I was inspired by my fashion designer success and
armed – ha ha fuckin’ ha – with the cutting tool and resin, I set to work. We’ve got a bunch of those silver space blankets – like I said, the heaters in the suits aren’t all that efficient and in case of emergencies that would require a long EVA or in the event that a rover broke down without enough power for heat, we’ve got supplies to help warm up astronauts that get chilled out there.

Apart from my new-found designer skills, I had to use chemistry. You know how I feel about chemistry. Real clear in my memory is the high school science project that got foisted on me by my chemistry teacher. It’s pretty damn clear in my ma’s mind too – she never did forgive me for the apartment stinking of vinegar for months.

I’m getting to my point, stop being so impatient.

My project was on the exothermic properties of sodium acetate. I had to make my own by boiling vinegar and baking soda – which I had to do twice because the first time I just dumped the baking soda in all in one go and it predictably volanoed everywhere which didn’t impress my ma that much – and reducing the liquid down. What was left I poured into a tub and shoved in the freezer. Then dropped a crystal from the dried gunk on the bottom of the pan, and boom, exothermic reaction as the sodium acetate molecules crystallize to a solid emitting lovely heat.

Now don’t ask me what the fuck Barton needed sodium acetate crystals for, I got no fucking clue, but there they were, on my inventory from the med bay. Dissolved some crystals in hot water, and then poured it into a few small fully sealable bags. These ain’t your everyday Ziploc bags; when NASA wants a bag to seal, that shit seals. Shoved it into Barton’s samples freezer for a while to really cool. Drop a crystal in and we’re in business.

It’s the same shit that’s in those pads where you crack the metal disk and they heat up and you can put ‘em in your gloves and pockets. Those things can stay warm for hours while mine topped out at an hour and 25 minutes but that’s pretty fucking good, and I’ll take it. In my test none of the bags leaked and none failed.

I can hear you bitching that I’m not sounding much like a Terminator. Martha Stewart in a chemistry lab, maybe, but not Terminator.

Enter, the humble space blanket. A few snips here, a little resin there, a bit of duct tape for flair and I had a metallic sleeve. The sleeve would keep the warmth from the baggies in, so even as they cool, it should keep pretty toasty. I used a length of tube bandage also pillaged from the med bay to protect my skin from the baggies just in case things get too hot and provide extra support for the limb. The resin and some fabric off of a pair of Nat’s leggings created some really ugly pouches on the bandage to house the baggies. A few strips of Velcro – this is NASA after all; they may not have invented the stuff but they do sure love to use it – stuck onto the top and bottom edges of the bandage and sleeve, as well as a on the open side of the pouches, and my outfit was complete. I could really use some freakin’ tube to get all that shit on, but it’s doable. Bandage goes on – that’s the hardest bit, those fuckers are tight and like to roll up - treat and seal each baggie, shove into pouches as quickly as possible, slip on sleeve, stick down – getting the Velcro to line up and stop fucking sticking to the fuzz on the bandage was a bitch – and then suit up.

Just like the commercial kind you got, mine can be reused. I just throw ‘em in the microwave.

I still fucking hate chemistry.

I will always hate fucking chemistry.

Just slightly less vehemently today.
Moving my arm around in suit is a little more difficult between the pain and the bulk and restriction of my enhancement, but I’m a big boy, I can cope.

I’m warm, I’m full, and I’ve had two nights of uninterrupted sleep…I’m thinking my shit-fit the other day was blood sugar related. Or exhaustion related. Or just pissed off from pain. I dunno, but I am fucking flying right now. My feet are barely touching the ground.

So, of course I wanted to see if I could ruin this great mood by going outside and continuing my fashion empire.

I dragged the mostly assembled saddlebags out the airlock towards R2D2. In the completed pouch sat the all important resin, my toolkit, and duct tape.

Because nothin’ up here is simple, I had to assemble and fit the battery at the ass end of R2D2, when what I wanted was to do it next to the rover, so that I could just sling the empty saddlebag over the top of the rover.

It’s almost like the guys that designed this shit wasn’t expecting an astronaut to wanna go space cowboy on his rovers. Short-sighted jackasses.

Why do I gotta do this at the back of R2D2?

The interface for the gizmos is there and I need the mini-crane to haul the battery up.

Fixing the mini-crane to the interface almost had me going full-Thor. You never wanna go full-Thor. Shit gets broken. For once, it wasn’t my arm being a little shit; sand had accumulated in the interface and it was stopping the strut on the gizmo from getting a firm lock. I had to haul ass back into the Hab to get the pressurised air gun for the solar array.

After, to my embarrassment, I’d leaned down to try to blow the sand outta the crevice, only to steam up the inside of my face plate.

Shut the fuck up, like you wouldn’t have done it. It’s reflex, or too much time spent around Barton, or some shit.

Assholes.

Once I got the gizmo fitted, it went pretty well. Both batteries have a small recess just behind the interface, complete with metal bar. It’s a layover from production, when the completed batteries needed to be hauled around. It was never intended for us to need to use it, but for once something up here is in my favour. I just had to hook up the cable to the bar, and up we go. If sound existed out here, I’d bet the fucker woulda been whining and grinding away like hell. The bulk of the rover’s weight comes from the battery and it’s gotta be close to the gizmo’s max payload weight, but all I needed was a few inches. I half expected the R2D2’s nose to come off the ground, but I guess its battery being up front helped keep that from happening.

I’ve no fuckin’ idea what I’d do if I tipped or flipped one of these bad boys.

When I got the battery high enough to get my hands under, I slid the bottom panel underneath, got it all lined up – thank fuck I already completed three of the sides, it helped get the thing centered right – and then lowered it back down again. A repeat of the duct tape tag and resin trick later, and there it was, in all it’s completed glory.

Drink in the brilliance.
Actually, fuck that. Drink in *my* brilliance.

I know it’s in the wrong place, and I know I ain’t got it filled with rocks yet, but it’s there. Fuckin’ days of blood, sweat, and tears and I can see it. I can see how I’m gonna get to Schiaparelli.

In fucking style, baby.

But first I gotta get this shit *onto* the rover.

To do that, I need more rocks.

Wait, y’all forgot about my little cairn already? Not got great attention spans, do you?

T1000 arm, don’t fail me now. Driving Miss Daisy around is gonna piss my arm off and I might be high on success and potatoes, but not so high that this ain’t potentially gonna suck.

**LOG ENTRY: SOL 68(2)**

I’ll give ya three guesses as to who was right.

That’s correct, it’s me.

It *sucked*.

But not as much as it would have a couple days ago.

I love being a Terminator.

Shit.

Did chemistry just save the day?

Again?

Fuck that shit, I’m giving the win to biology. I’m just healing. Yes, it’s petty. No, I don’t care.

It took me about 45 minutes to drive around and fill the cabin with what I hoped were enough rocks. Halfway through I got bored enough to consider just dumping an empty CO2 tank into the pouch with whatever rocks I’d managed to find but ten seconds later had to abandon it; the tanks are too tall. I hit one bad bump and the fucker will bounce out and then my battery will crash onto the surface and, knowing my luck, crack open. The thing will have crashed into the surface from orbit just fine but fall five feet and game over.

Not to sound like a broken record, but that would kill me.

I now have almost 300 potato plants that would be seriously pissed to discover their life’s work was wasted because the human idiot dropped his magic box.

So I kept right on, at a radius of about a kilometre with the Hab at the hub, parking up in a spot that looked good and throwing open the cabin airlock. Y’know how I said that the suitports were there to sorta help keep dirt and shit outta the cabin?

That ship has fucking sailed.
The inside of the cabin is lookin’ like a skip outside a construction site – rubble central. It’s been a good test actually, tooling around in a weighed down rover. The engineers that designed the rovers didn’t seem to give a fuck about shit like a suspension system. On a normal sol, you can bounce around like a ping-pong ball in the cabin. Those lucky enough to be in the cab only get away with it a little more ‘cos it’s too cramped with your legs stuck under what passes for a dashboard and controls over your lap. The more rocks I got in the back, the less comfortable the ride.

So that’ll be fuckin’ fun when it comes time to ride to Schiaparelli with all my shit packed in the back. Me and my fillings look forward to it.

When I just couldn’t face lifting another freaking rock and toss it into the cabin, I made for home. If you think I reversed over the empty pouch on my first try lining the rover up as close to the battery as possible, then, well…

Shut up.

It’s not like I got a rear-view on this thing. It’s got cameras on the sides that provide a feed to one of the screens in the cab, but not one for the rear. Parallel parking wasn’t a big part of NASA driver’s ed, sue me. Didn’t waste any time on that forward-back-adjust-back-forward shit though, ‘cos my car can do what yours can’t – move sideways for those subtle little adjustments when the god of war is fucking with you.

I don’t wanna hear anythin’ about how I should have done that the first time and that I’m an idiot. I know, but unless you’re gonna come here to tell me to my face - ‘cos I’m man enough to be okay with that - you can just save it. You can also save me a seat for the return journey on whatever spaceship you rescue me in.

If it could be the Enterprise, I’d appreciate it, but I’d understand if it can’t.

I do get points for being smart enough to have built my cairn by the battery though. All rocks, no waiting. Well, some waiting, ‘cos I had to tug down the RSC off the roof. The RSC is not – and Barton are you listening? – anything to do with the Royal Shakespeare Company. It’s a real fancy name for what is essentially a freaking cushion; the Rock Sample Cushion, protects the roof of the rover from the weight of the containers with Steve’s pet rocks in ‘em. Well, would have. Steve never got the chance to do more than throw the RSC up there, but I got plans for it.

Throwing the empty pouch over the roof of the rover was more of a challenge than it sounds, and lassoing some steer woulda been easier. You try throwing some heavy shit over the back of something 4 feet taller than you, with only one hand and without jostling your other arm.

To watch me you’d never guess I was on the JV basketball team at my high school. If my throws had been this bad back then, forget the coach yelling at me, my teammates would have ripped me apart. I ain’t gonna admit how many times I tried, grunting like some sorta wounded bear every time, only to watch the pouch almost make it to the other side, before slithering back across the roof and crash to the dirt.

Back to my S&M straps. Loop straps around the two saddlebag straps just where they join the pouch. Throw straps over the roof of the rover – fucking flawlessly, by the way – troop around the back, grasp ends of straps and haul.

Ta-da.

I had to move R2D2 forward a couple feet before I could start the great rock exodus. Once it’s balanced, I ain’t gonna be able to shift where the harness sits on the rover and right then, it was
sitting with part of the empty pouch blocking access to the airlock. That was fine when it was empty, but once it’s full, I’m still gonna need to be able to get shit in and out of the airlock.

The entire cairn barely pulled the pouch down, so I popped the airlock and started throwing rocks into the pouch, watching it slowly slide further and further down the side of the rover as the battery lifted.

Fuckin’ physics, baby.

The battery and rocks are dangerously close to the rover’s full payload limit and I can tell it’s is sitting lower which concerns the shit outta me. If I’m already close to what the rover can carry, how the fuck is it gonna cope with all the shit that I need to survive the trip to Schiaparelli?

But fuck all I can do about it right now. One problem at a time.

Next problem: solar panels.

Remember the RSC? It’s time for its close up. Using the resin, I fastened it to the straps of the saddlebags, stabalising it. Using the cutting tool in my toolkit, I sliced the straps I’d used to pull the saddlebag into place across the roof in half, and used the resin to glue two straps to each side.

Bet some of you are wondering why the fuck I’m boring you with this shit.

Because it’s good for you to learn how to MacGyver your way out of this sort of fuckfest. Maybe your plane will crash on a tropical island inhabited with polar bears and you’ll need to survive.

You never know.

That’s right! It’s the solar panels! Anyone who guessed should take a bow. Go on, take a bow you know you wanna.

The RSC is wide enough to fit two solar panels nestled on top side by side. Two stacks of seven, and then strap those bad boys into their car seat and away I go.

But not today.

The T1000 sleeve is cooling down real fast and while I can lift the panels with one hand, manipulating them onto the roof is just gonna be stupid. Besides, I got something else I can test today, before heading back inside.

It took about five minutes to unplug R2D2’s battery and wire in the Funvee’s, and a couple minutes more to get settled into the rover and checked the systems. Everything looked good. Time for a test drive. I drove round and around, figure-eights, up and over rocks to shake shit up. The saddlebags held up to it perfectly.

Who said fashion couldn’t be functional.

By noon, baby. Who’s the most efficient man on Mars? This guy.
Death or Chicken?

Chapter Summary

If Bucky is going to get to the Ares 4 site, he's going to have to further amend the rover. That's going to require a little lateral thinking.

Chapter Notes

See the end of the chapter for notes

LOG ENTRY: SOL 69

When Dugan, Morita, and I graduated, we did what all good graduates did: we got fucking hammered. Woke up the next morning to discover we’d all booked tickets to Italy, our shitty printer still hot from the amount of stuff we’d printed off, from plane tickets to wine tours to car rental.

We rolled with it. Sometimes you just gotta. That, and pay Morita’s parents back for maxing out his emergency credit card.

We spent three weeks living out of that rent-a-wreck with the occasional night in a hostel for fun and access to what I’m gonna grudgingly call a shower. Which couldn’t come soon enough after Dugan threw up out of the passenger window while Morita had the back window open.

They would have been eaten by wolves if it wasn’t for me. I ain’t lying, eaten by wolves. They can deny it until they turn blue, but we all know the truth: I am the road-trip king. Anytime they counter it, or try to bring up the train - we do not count the overnight train from Rome. We never talk about the train. Or the Swiss border patrol. Or that ‘bed’ in the sleeper that was actually the luggage rack - I just pat ‘em on the head and remind them, that without me, they’d have been devoured by creatures that are only slightly higher than them on the food chain.

Why do I mention my road-trip prowess?

I feel like this needs a build up, some sorta majestic swell of music, something fitting. Who wrote ‘The Planets’? Only classical composer I can think of is Mozart, and I can tell you with near 100% certainty, it ain’t Mozart.

Fuck, that’s gonna drive me crazy for four years.

Well, whoever it was, imagine that the theme for Mars is playing as I say this:

It’s roadtrip time, baby!

That’s right, now the legwork of getting my rover tricked out is over, I get to do the fun shit and get my Indy 500 on. Finally, being stuck in a confined space with Dum Dum for a prolonged period of time pays off.

It’s about fucking time.

NASA gets to name all the shit it does after gods and myths and all that, so from now on, rover trips are Pluto missions. Get it? Oh fuck you if you don’t.
Pluto 1 is shipping out tomorrow.

It’s a real simple mission. Starting with both batteries charged, and with all the required cells on the roof, I plan to drive as far as possible and see how far I get. My earlier calculations of possible distance travelled per battery charge are gonna go right out the window – the rover now weighs almost twice as much as it did previously. Now I know this is hard to believe given some of the stuff that’s happened – some of which was my fault, I admit – but I’m not totally stupid. I’m not gonna get in and just drive straight from the Hab out into the sunset. I’m gonna tool around in large circles keeping the Hab in sight. It all goes to shit, and let’s face it, that is exactly what I’m expecting to happen, and I can just stroll home.

How the fuck I’d get R2D2 back to the Hab, I haven’t figured out.

That’s another reason not to get too far away from New Brooklyn; I don’t wanna be hauling my toolkit freaking miles.

The Funvee battery hasn’t been used since I tested the charging rate, but R2D2 has, so while I prepped inside the Hab, it was plugged in to charge. This might come as a surprise, especially seeing as how I’m shit at unpacking, but when it comes to a vacation I was always a damn good packer. None of that last-minute shit of frantically throwing anything into a bag. I can live outta a carry on back-pack for a month if I gotta.

Which is good, considering I can’t buy extra baggage at the airport.

To be honest, even I can’t fuck up the packing list for Pluto 1; CO2 filters for rover and suit – just in case – and roughly every piece of clothing I have up here. And the blankets.

Why the hibernating polar bear act?

Remember? I’ll be keeping the heater off, it wastes too much juice.

It’s gonna get brass-fucking-monkeys up here.

Log Entry: Sol 69(2)

Pluto 1 is done.

Well, Pluto 1 was aborted but it’s not a case of one and done. Now, you might call that a failure. I call it a learning experience. Can you tell my sister works in HR?

Optimism mode – engaged.

So, Pluto 1 wasn’t a failure, it was just a time-delayed success. Take that NASA engineers, you ain’t the only ones that can give things stupid names.

Things started out just fine. I got my go-kart on by trundling up and down along a strip about 500m long. But even I quickly noticed that was a literal waste of time. After only a few passes the ground was heavily compacted. Which made it easier to travel on, which would give an abnormally high km count. I might not have to worry about shit like traffic conditions, but the state of the driving surface
is something I gotta worry about. The better – more compact – the surface, the better the mileage.

I know I’m repeating myself, but while that shit might fly in Kansas, soon as I leave Acidalia Planitia and it’s cushy ways, I’m gonna get brought back to Mars with a bump.

Time to shake it up a little.

Literally.

I headed for the most uneven ground I’ve got up here, while still sticking close to the Hab like a good little duckling, and wove around, never driving over the same patch twice. Which was when it started to get really cold.

Balls-trying-to-get-intimate-with-my-abdomen cold.

Y’know how your grandparents are always complaining their joints hurt when it’s cold? They ain’t fuckin’ kidding. I dunno if it’s the cold itself, or because I’m shaking so hard I’m gonna come apart which is pissing my joints off, but fuck me. Even my knees, still aching from the solar panel lunge-n-squat were twinging pretty hard before I finally gave up and called Pluto 1 over.

Like any car in winter, the rover is cold when you first get in, but when you haven’t disabled the heater, it gets warm really fast. I’d expected the cold, after all it’s -60°C out there. I’d prepared for it, what will how I’d pulled on every single fucking piece of clothing that I could get on and still fit behind the controls. I had four blankets wrapped around my lower body and two draped over my shoulders like the lamest of capes.

It was fucking Arctic.

Hell if the Arctic was still as cold as this was starting to feel we’d not be worrying about melting ice caps.

The rovers, just like an electric car, generate next to no heat because they’re so efficient unlike beautiful gas guzzling internal combustion engines, but for once the cab being separate from the cabin was in my favour – it ain’t like there’s a lot of space to keep warm.

I was fine for a bit. I was kept warm with the sweet knowledge of how many fewer days I’d need to spend in the rover on the Schiaparelli trip if I could keep the heater off. That and the T1000 sleeve was helping my feel pretty good.

Besides, I wasn’t just relying on my sartorial elegance for warmth; the rover has excellent insulation and any heat that escaped my bedbug impression just went to heating the rover, which would keep my insulated.

Right?

So. Fucking. Wrong.

As evidenced by a lot of the shit that has gone on up here, nothing is perfect, least of all the rover insulation. It’s fighting a losing battle, I can only put out so much heat. That heat leeched out and I got colder and colder. Within an hour I called a halt to the whole thing because I was too numb to drive properly and I was beginning to seriously worry my balls would never descend again.

Amusing for you, maybe, but this could all be pretty lethal to me; if I could barely last an hour, there was no way I could drive all the way to Schiaparelli without the heater.
I reconnected the heater and drove back to the Hab slowly starting to get the feeling in my extremities back and sulking. It was a beautiful plan, and I’d have gotten away with it too if it wasn’t for pesky thermodynamics. This sucks. The heater is gonna drain my battery. Even if I turned it down and was just a little cold instead of a Bucksicle, it’d still suck up a quarter of the juice.

I’m gonna read some more of Natasha’s possible-porn and think about it.

**Log Entry: Sol 70**

In retrospect thinking I could do without the heater was a really stupid decision. Even more than I thought. I’m not just talking about it being uncomfortably cool in the rover without it, I’m talking stupid.

Why stupid?

Because when you’re cold your body has to work harder to warm you up. That, like everything else in the human body, required energy. Energy that is gleaned from food. Which I don’t exactly got an abundance of. In order to keep myself warm enough to drive, I’d need to be consuming more calories than I have access to.

But in true tradition of me fucking shit up, there’s actually a much bigger issue that should have slapped me in the face when I first thought about turning the heater off.

Fucking chemistry.

Just like a conventional engine, electrical ones suffer in the cold. When it’s cold, the necessary reaction in the battery slows down in both directions, discharging and charging. Up to 75% of the energy in fuel is wasted in comforting, delightful heat. This waste doesn’t just keep the car toasty, it heats the engine when it’s cold, increasing its efficiency. But I don’t have that in R2D2. Only 10% of energy in the engine is wasted as heat, not warming much of anything and its batteries don’t like cold.

Whenever the rover is charging from the Hab, the electrical heating system for the battery keeps the battery at the temperature it likes – NASA is good but just like the insulating on the cabin can only do so much, so too can the insulation on the battery – but when it’s not, a trickle charge is leeched from the battery to be used by the resistive heater to keep the battery in pampered luxury.

Or at least not freezing.

In turning off the heater, I’d turned off the heat to the battery, and isn’t that a metaphorical shitshow.

So I was fucked either way.

Drive with the heater on and lose up to half of the mileage per charge. Turn the heater off and not only do I freeze, but the mileage per charge drops because the engine and the regen braking – recovers energy that would otherwise be lost when braking/stopping and sends it back to the battery –takes a hit.

Worst case, the battery would fail to charge at all.

Fuck ‘learning opportunity’. That would be a fucking failure.
I thought on that for a while after Pluto 1 was aborted. I need heat, but I can’t run the heater, and I can’t continue to just fuck around with the insulation because even if I can get it to successfully run a little cool, my body will to try to compensate, meaning I’ll be hungry all the time. Even more so than usual. I’ll burn through what rations I have much faster, meaning all the symptoms I’ve already got from being malnourished will only get worse. I dunno about you guys, but I ain’t driving across Mars feeling even more light-headed and dizzy than I do now.

I am not killing myself as the only fucking driver on Mars while driving to my salvation. That’s the sort of irony I refuse to die conducting.

I was still chewing over it on my bi-weekly jaunt out to the weather stations, which was when I spied my solution. If driving light-headed was stupid, there ain’t even words for my solution. It says something about me that that somehow made me feel more confident about it. I don’t know what it says, but I’m thinking it’s unflattering.

Fucking accurate, though.

Is there something that’s stupider than the Rogers approach to life? Like the Momma of all Rogers Approach? From what I know of his mother – which ain’t much -, the woman was a saint. Maybe he gets the death defying from his dad. Daddy of all Rogers Approach?

I’ll work on the name.

This is a plan so dangerous even Rogers wouldn’t do it.

Let that sink in.

Rogers, he of the finishing every bar fight Clint starts and attempting to enlist five times before he was even 16 – he’s a terrible liar and was less than a hundred pounds before puberty hit him like a truck at 17, so that was never gonna go well – and went AWOL – alone and unarmed - to rescue a platoon caught behind enemy lines, would look at this plan and hold up his hands and back away.

So of course, I’m gonna fuckin’ do it.

Maybe this is the Barnes Approach. Being sensible never sit right with me, no matter what my ma wanted, so maybe this is my niche.

In my defence, the odds are I’m gonna die up here. That’s not pessimism you hear sneaking into my tone, though I do gotta put some pictures up on my dash, it’s a healthy dose of realism. C’mon, if you heard a movie synopsis of a man that was stuck on Mars for four years with no food and no ride, admit it, you’d be betting on him croaking before the second act.

The Barnes Approach is unlikely to change the outcome of that too much, but I gotta play the numbers game. It’s another Catch-22; if I don’t do this, I can’t get to Schiaparelli. That’s 100% certainty. If I do this, there’s a chance it’ll kill me, but a pretty slim one. In comparison to, y’know, the myriad of other shit I’ve pulled that could have killed me.

But at least this time it won’t be me going boom.

Variety is the spice of life.

If that’s an example of my persuasive skill, I’d have made a shitty lawyer. See Ma, told you that botany and engineering were where it’s at. Then again, a lawyer never got abandoned on Mars and would have earned more money…pros and cons for both, I guess.
I’m going to use the RTG.

Which doesn’t sound scary because you don’t know what it is.

Radioisotope Thermoelectric Generator is a box of Plutonium. Not the stuff in the bombs, oh no that’s too every day. This is your Sunday best Plutonium.

You know what they say, walk softly and carry a big box of deadly radiation.

Plutonium -238 is an incredibly unstable isotope. It spits out radiation at least 250 times faster than the shit in bombs, even if Pu-239 does split and set off reactions more readily. It is so radioactive that it’ll glow red-hot all on its own, and call me crazy, but something that can literally fry an egg that’s on the other side of the room just by sitting there is all kinds of dangerous.

The RTG houses the Plutonium, captures the radiation in the form of heat, and converts it into electricity, even if they are super inefficient, generally around 6-7%. I know what you’re thinking, but it’s not a reactor. I can’t dial the heat up and down. The heat is a constant because it’s a natural process that’s going on at an atomic level.

Unlike the electric fire of my childhood home, fucking with the RTG won’t result in a blown fuse and a spanked ass. It’ll just burn me out of existence.

Told you it was stupid.

RTGs have been used since the ‘60s, powering unmanned probes due to its advantages over solar power – constant power, all internal so no fragile solar panels all over the place, storms don’t bother it, no moving part and in over 300 combined years of using RTGs not once has one ever stopped providing power.

But it wasn’t until Ares 1 that it started being used on manned missions.

Why?

Why the fuck do you think?

NASA likes keepin’ its astronauts alive and that’s difficult when you put them next to a glowing ball of radioactive fucking death! Or leave them behind on Mars.

Alright, alright. Maybe I’m exaggerating a tiny bit. Maybe. Alright, so long as I don’t do anything really fucking stupid like cause a crack in the casing, I should be fine.

But with my luck…

Back when the RTGs started being used on unmanned missions, there were huge protests organised by critics, those that lived and worked around Cape Canaveral and more than a few anti-nuclear groups. Their arguments mainly centered on the concern that if there was an accident at launch, then the radioactive material within the RTG would be scattered into the atmosphere and over a wide area of death and destruction. NASA engineers were real quick to point out that the RTG housing is virtually indestructible, even when subjected to explosions.

As such, potentially it’s even immune to me.

Cross your fingers for me.

How is it gonna be safe from me? The Plutonium isn’t just sitting in a box; the marshmallow-sized
pellets are sealed inside a bunch of metal casings that are insulated to prevent radiation leaking out even if something happens to the external case. NASA considered that safe enough to risk using it with their astronauts. Especially using Pu-238 which has exceptionally low gamma and neutron radiation levels.

It’s almost a shame about the sheer tonnage of alpha particles. Those are fucking dangerous to living tissue and pretty much any and all DNA. Inhale this shit and it gets into your blood stream through your lungs, so it’s pretty much just inviting it in to wreak havoc for decades.

Think it’d give me super powers? Dibs on teleportation.

Besides, who wouldn’t want to possibly get killed by something with collector’s value?

Plutonium-238 has to be fully synthesised. The other isotopes used in RTGs are abundant as a by-product of nuclear fission, unlike Pu-238.

Doesn’t make it sound special, right?

Kinda. It might not be a by-product of nuclear power, but it is a by-product of creating nuclear weapons. Big shock that only two countries have ever been stable with their production of Pu-238: Russia and the US. The US only re-started production of the stuff twenty years ago, so we’re still a little rusty.

Bet you still don’t think this is sounding special.

Fucking impatient.

Ever heard of the Nuclear Non-Proliferation Act? Yeah, kinda left us a little light when it comes to by-products of nuclear weapons. When the Ares missions were announced NASA literally put all of its eggs in one basket – only twenty-three kilograms of Pu-238 were available and two of those weren’t suitable for use.

Five RTGs. Just enough for the Ares missions at four kilos per device.

It won’t be for another year that Pu-238 can start to be synthesised again because the equipment is being used for shit that they’re decades behind on and even working flat out, it’ll take three years to synthesise enough for an RTG.

Bet it looks more special now. It’ll be an honour to die at the hands of something worth more than I could ever imagine.

So what was it for?

Like what seems like half the shit up here, it’s for the MAV. Like I told you, the MAV is the most important component in the mission. It’s the only system that will cause a full scrub of the mission if it’s malfunctioning; it can’t be replaced.

Don’t I fucking know it.

The MAV hangs out for a couple years making its fuel, and to do that it needs power. Solar cells are great, but like you mighta noticed, they gotta get cleaned off several times a week because of the winds and storms. But the MAV is all alone, no handy astronaut to service its every whim and solar cell cleaning needs.

Instead 3.8kg of Plutonium-238 does its thing: it emits almost 1500 watts of heat which makes
100W of electricity, through the use of thermocouples. Don’t worry, I won’t bore you with how they work, but they’re real simple and y’all come in contact with one pretty much several times a day seeing as how they’re in ACs, your fridge, and hell, even medical thermometers.

They’re really useful.

Y’all think I’m gonna use it to run the heater, don’t you?

You guys are never right. You should look into that.

I want heat, right? Why use a red-hot thing to make electricity for the heater, when I can just take the heat straight from the source? It’s gonna keep the rover toasty warm. I’m actually gonna have to rip out some insulation or I’m gonna be in a mobile sweat lodge.

Because it’s a box of death, once we landed and confirmed the MAV was finished manufacturing fuel and no longer required the RTG, Rogers removed it and hopped into a rover and headed out to bury it 4km from the Hab. It’s got the insulation and whatever but NASA gets ants in their pants about radiation around its people. They’re funny like that. You’d think that something that puts out a constant amount of heat would be useful up here, where it’s always cold and never Christmas. But NASA is made up of worrywarts.

And Tony Stark.

Who probably powers his house with one. Certainly his ego.

Somewhere out there is the RTG. I gotta find it. There’s no specified dumpsite, Rogers just drove 4km away, dug a hole and voila. What’s a good way to ensure the casing on an RTG gets damaged? Bury it in a highly insulating medium like Mars soil.

Sounds safe.

Now I gotta dig more. Why he had to freaking bury it I’ll never know. Who the fuck are we protecting from it? The Space Pirates? Mars in un-inhabited apart from me, and I want the fucker!

But I at least know where to search; Thor and I were assembling the array so I know what direction he headed out it and the site will be marked with a 3m high flag as a warning not to approach.

I love breaking the rules.

I’m taking souped-up R2D2 – does that make it R2D2²? – so it can serve as another Pluto mission to see how the saddlebags hold up over a longer journey.

Tomorrow morning Pluto 2 will embark to find shiny radioactive death.

I’m a dramatic fucker, ain’t I?

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**Log Entry: Sol 71**

Found it!

Okay, so it wasn’t hard – I headed due south for 4km and there was the flag. Rogers had buried it up on a small hillock, probably to make sure it could be seen. Rogers, you are a god amongst men and I
could kiss you.

Even as I dug it up – my bitter ass is so happy that someone else on this crew had to fucking dig a massive hole - I could feel the heat radiating through my gloves, which was pretty fucking disconcerting. As was how deep Rogers buried it.

Like I said, burying it never sat well with me; it was a stupid idea but who can tell NASA anything? The fucking heat coming off the soil even a foot above it was terrifying. Like I said, you can’t dial up or down with an RTG, it just pumps out heat, in this one’s case for about 90 years. For the past ten weeks it’s been pumping out a fuck-tonne of heat into packed soil that’s just been getting hotter and hotter.

Digging it up was probably the most dangerous thing I’ve done up here.

If it had become damaged from over-heating, it was game over.

Didn’t stop me though.

Told you I was stupid. I lifted the cylinder out of the dirt – I know I’ve said it before, but I fucking love the gizmos – and checked it over like a jeweller checking out a diamond. I spent twenty minutes slowly looking over every inch of that death box and couldn’t find a single crack of damage of any kind.

I might be a stupid fucker, but sometimes – rarely – I’m also a lucky fucker.

The luck ran out when I had to man-handle the bastard thing into the cab to ride shot-gun.

Speaking of shotguns, forget punching the designers of the rovers, I’m straight up firing squad their asses. Couldn’t they have put an interface for the gizmos at the front of the rover too?

Exhausted, I could have returned straight to New Brooklyn for a little R&R, but no time like the present for a little scientific enquiry.

Pluto 2 was deemed a success.

Pluto 2.5 is a go.

I turned off the heat, got settled in and headed to the Hab.

Fuck me sweaty, it got hot. In the mere ten minutes it took to get back the rover’s cab temperature rose to 37°C.

I know I’ve complained about the cold, but prepare for me to bitch about the heat.

Pluto 2.5 checked off as a success.

Theory has been proved – the RTG will keep me uncomfortably toasty on my trip to Schiaparelli. The saddlebags handled the trip perfectly and the solar cells didn’t budge an inch.

But did your plucky neighbourhood astronaut stop there? No, he did not! Buoyed on the knowledge of being right – me! - Pluto 3.0 began in earnest.

Vandalising the interior of the cabin.

It’s possible that as a kid, for a couple years after my dad died, I might have been something of a problem. Never at home, my ma would never have stood for that, and I was working hard to keep
my promise to my dad to keep the family together, but I needed an outlet.

Like I said, I’m the King of bottling up my feelings and shoving them down. Not really great at the healthy expression of shit like grief, and vandalising a couple of the abandoned buildings in my neighbourhood made sense at the time. Garner would probably say something about control issues and making something look as shit as I felt and a bunch of other bull.

Probably be right.

When Ma found out about what me and the gang of kids from a couple blocks away were up to…I might be more than a foot taller than her, and started to outweigh her when I was about twelve, but never cross her. Forget no phone and no TV, my punishment went on for about a year and pretty much consisted of me being under house arrest unless I was at school, the library, or volunteering – is it volunteering when it’s forced? – as a handy man at the retirement home where Ma worked part-time on weekends.

Put me back on the straight and narrow though. The work I did at the retirement home even got me in the local newspaper and looked fucking awesome on my college applications so I got no regrets. Maybe a few regrets. Walking in on Mrs. Teller walking around the dining room naked put my sex life back about a decade.

But it did prep me nicely for ripping apart my gorgeous R2D2, and taking something that cost tens of millions of dollars and making it look a lot like the piece of shit that masqueraded as my first car.

The principle was pretty simple. Shockingly so, given how advanced the tech is. Rip out inner panel and have at the insulation.

The body of the rover is made up kinda like a house – outer wall, space for insulation, inner wall. It’s just all ridiculously expensive. The outer shell of the rover is a variety of different metals and alloys chosen for their strength to weight ratio, and that’s all coated in a graphite/epoxy composite skin. Bet your house ain’t made of that. The insulation is a web of tiles that feel like foam, and like most insulating material is about 90% air. For anyone who cares, the other 10% is silica fibres.

Yes, there will be a test.

Hey, y’think if I survive this fuck-fest, NASA will let me teach lil’ baby Ascans how to survive up here? I could set interactive exams: shut them in a room alone with a box of junk and tell them to make something useful.

Any Ascan that doesn’t use the entire roll of duct tape I’ll give ‘em will flunk.

Am I using the duct tape?

I’m insulted you think otherwise.

The inner shell of the rover is a carbon fibre reinforced plastic, and getting past that to get at the insulation was my first challenge. The cab isn’t exactly roomy, and never has the phrase ‘not enough room to swing a cat’ been more fitting for me. You know how hard it is to swing a hammer hard enough to break shit that’s designed to resist breaking when you can’t actually get your arm back very far?

Take it from me, it’s really fucking hard.

None of the wiring or shit runs through the side panels of the rovers so the designers – firing squad is
too good for ‘em – never bothered with things like tabs or access points. I got tonnes of ‘em under the dash or for the floor, but no easy access to the insulation in the side panels.

Hence the hammer.

Bet if Thor was wielding it this shit would just shatter, but with me, it took a lot of cursing, threats, and effort to get the panel to pop out. In true ‘fuck you, Barnes’ Mars fashion, after the first panel came out, the second popped out in four seconds.

We won’t be discussing the thirty minutes it took to get the first off.

I’d assumed the insulation would be pretty free within the space.

Big shock that I was wrong.

What looked like bathroom caulking, and was probably silicon-rubber glue was bonding that shit to a sheet of felt which was bonded to the graphite/epoxy skin, and all of it was stuffed in there to the gills.

I might not have been expecting it, but I was fucking ready.

I have at my disposal a highly advanced and scientific method to deal with this shit.

The claw end of my hammer.

Who’s the fucking ruler of Asgard now?

Using the poor man’s Mjölnir, I hacked out chunks of the insulation. I could feel pretty quickly how the temperature was going from sweltering to balmy, but that wasn’t a good enough test.

Not for a man of exactitude and science like my good self.

Nah, I decided I had to suit up again, and haul that heavy fucker back out of the rover. It sat in the dirt while the rover cooled, and I went inside to treat myself to lunch.

When I got back to testing my theory out, while the temperature in the cab rose more slowly, it was still uncomfortably hot, so my trusty hammer and I chipped out more insulation, as much as I could reach around the edges of the panel I’d removed.

I really don’t want to get into how many times I had to repeat that, but if in a few hundred years the descendants of every rover engineer finds themselves going bald at nine, and with the worst luck of anyone on Earth, they know what they fucking did.

Access panels, people. Fucking use them.

Eventually I had removed enough that the RTG could barely keep up with how fast heat was leeching out, which was just fine with me. I could always blast the heater periodically if I got cold. Until I figure out a way to run the battery warming without the heater in the cab being on, I’m gonna need to turn on the heater for short periods anyway, at the beginning of the drive for sure.

Waste not, fuckin’ want not; i wasn’t going to let those pieces of insulation sit around and do nothing. With even more complex techniques of engineering – my pal duct tape because I told you I was using it – I reassembled some of it into a square panel. If it gets cold, I can shove it against the bare patch and let the RTG heat the rover again, no heater necessary.

Tomorrow, Pluto 4.
It’s actually *Pluto 1* the remix, but rarely do sequels improve on the original. Well, Terminator 2, The Winter Soldier, Dark Knight…I’m losing my train of thought.

I’m gonna go watch Terminator 2 again.

I’ll be back.

**Log Entry: Sol 72**

I’m back to writing my logs in R2D2. Better get used to it, if I’m gonna be spending 50+ days in here. For once I’m not in here because I’ve fucked up! I’m halfway through *Pluto 4* and things are goin’ great.

Set out first thing – well, first thing +1hr because it took me forever to get the solar panels onto the roof of the rover - and drove laps around the Hab in a sorta spiral to keep on untrodden ground. Battery 1 lasted 2 hours, and after a quick EVA to swap the cables I got back to my need for speed. All told I did 81km in 3hrs and 27 minutes.

That’s how we do it in Acidalia-fuckin’-Planitia!

Sure, it’s Kansas and I’ll encounter shitty terrain once I’m outta Acidalia Planitia, so efficiency will drop but I’m happy with the effort. Gotta start somewhere, right? I coulda gone a little further, but remember the whole need for life support? Couldn’t drain the batteries or the fan that pushes the air through the CO2 filters won’t turn and I’ll suffocate. Maybe if I was on Earth I’d ride that red-line on my gas tank pretty hard, but back home if that goes wrong, I just got an embarrassing walk for gas. Up here, it’s kinda fatal.

Setting up the solar panels was a pain in the ass but once I figured they could survive being dragged rather than carried it went a lot faster. If you think I figured that out by accidentally dropping one and then dragging it along for a couple seconds as I tried to get a hold of it properly, then you are entirely right.

Fucking up, the true mother of invention.

Heart-attack, the killer of the inventor. I had to sit on my ass for five minutes and remember how to breathe at the thought of losing a panel, before realising it was fine.

So now I’m just kickin’ back, cooling my heels and bored as fuck. I’m gonna have a lot of this downtime shit on the way to Schiaparelli – I gotta find somethin’ to do for the 12 hours it’ll take.

But Bucky, you said 13 hours before, you idiot.

The RTG is a generator. Sure it’s a pretty paltry amount of electricity at only 100 Watts but that ain’t nothing. That 100W is enough to take an hour off recharge time. I’d be a fool to not use it, especially after spending the entirety of the movie last night figuring out how to wire the fucker up to the batteries.

Yeah, I know, I can be pretty fuckin’ foolish but not today!

During my 12 hours with Natasha’s ereader I pondered how NASA would react to my fucking around with the RTG like this.

Probably assume the brace position under their desks and whimper softly.
Log Entry: Sol 73

Remember how I never screwed the array back into place?

Now I can say it was for a reason. A real good reason. Way better than for experimentation with *Pluto 4*.

*Afucking* excellent reason.

Think I’ve built this up enough?

Sure?

Say it with me…

*Road-trip.*

After successfully recharging the batteries during *Pluto 4*, I came straight home, already making plans.

I’m gonna go on a multi-day field trip. There’s no impediment to me doing so and it’d be a good test run for the big one. Power and battery re-charge are solved. I got food and I got water. Long term, like Schiaparelli, I’m gonna need the Oxygenator but I’m not fucking with that yet, so I’m just taking CO2 filters and relying on canned air.

Hallelujah, NASA *did* learn from Apollo 13! It took 60 years but they did it. Someone at NASA definitely adheres to the slow-and-steady approach to life. All the systems use the same filters – all hail standardisation! Now if they could have just jumped on-board that bandwagon for the electricals, I wouldn’t have had such issue with the pop-tents. I started this adventure with 1500 hours worth of filters, plus 720 of emergency supply. So far I’ve used 139 hours – trust me I am keeping an obsessive eye on every single minute of EVA time, I’ve got a chart on a stretch of Hab wall – so I’ve got 2081 hours left. 86 straight days.

Yeah, I remember my concern about the whole ‘*no needless EVA*’ stuff but this ain’t needless. I ain’t just going for a Sunday drive, I’m after something so much better.

I am gonna have to pack some oxygen though and unlike the filters, that’s gonna take up a lot of space. May the bitching begin. Y’all can ask Morita and Dugan as to how much bitching I can fit into a day’s driving. I might be the King of road-trips – undisputed and eternal, no matter what Jones claims - but I am also the prince of bitching about it. If anything requires bitching about, it’s dragging around oxygen tanks.

Mars’ atmosphere pressure is $\frac{1}{90}$th of Earth’s, so to not have to deal with the pressure differential between outside and inside the rover – which has 1 atmosphere – the oxygen tanks are *inside* the rover. This is awesome *’cos that means I can bring extra tanks and not have to EVA to switch ‘em, seeing as how the tanks on the rovers don’t hold enough for 20 days.

Not awesome is the hauling of the tanks. This morning I hauled one of New Brooklyn’s 25L oxygen tanks over to R2D2. According to the smartasses of NASA, a person needs 588L of oxygen
in order to keep from kicking the bucket. Compressed liquid O2 is 1000 times as dense as gaseous oxygen so the tank can provide enough O2 for me to survive 42 days.

Trust me on the maths.

That’s twice what I need.

Yeah, this trip is gonna take 20 days.

I hope.

But I’m taking all 42 days worth because I know my luck even if you haven’t been paying attention.

Why haven’t you been paying attention?

You’re all sitting there going ‘Bucky you dumbass, you’re gonna jump from tooling around the Hab to fuckin’ off for 20 days!’

Go big or go home.

And I can’t go home you insensitive bastards.

Besides, travel to Schiaparelli is gonna take somethin’ like 50 days. I gotta find out if I can manage that. After the spacious life I’m used to in New Brooklyn, the relative cramped confines of R2D2 aren’t totally appealing.

Or at all appealing.

At least I’m gonna have packed entertainment that isn’t Nat’s music.

Never again.

Speaking of New Brooklyn, it can handle itself for 20 days, it’s a big boy now. The potatoes, however, aren’t. They’re used to having me as their attentive servant and sometimes the Hab is too good a nanny; left to its own devices it’ll keep New Brooklyn perfect for me but not for them. Meaning way too dry for plantkind. It’d be the equivalent of no rain for three weeks while the sun shines 24/7 and draws all moisture from the soil.

What I’m after is really important, but not so important that I can let my plants die.

But don’t worry, I got this. I’m going to use some of that gorgeous water I almost died to make to saturate the dirt before I leave, and turn off the Atmospheric Regulator so it doesn’t pull the water out. It’ll make it rainforest-esque again, and condensation will be all over the fucking place but the plants will be watered.

Because the plants are demanding bastards, they also want CO2. Sure I am a CO2 producing machine in the great cycle of nature, but I can hear you asking how do I store it? How do I maintain a constant flow into the Hab?

I’m not gonna, that’s how.

I haven’t lost my mind.

How soon you forget. Remember how I got all that oxygen in the first place?

No?
I really am gonna fucking start issuing tests now.

Spoiler alert: it involves the MAV.

Got it yet?

Forget my plants, you guys need a nanny.

Why try and rig up a valve to slowly release CO2 – which could fail or worse - when I can just vent a fuck-tonne into the atmosphere and run away? Right before I leave, I’ll vent a tank from the MAV fuel plant into the atmosphere and that’ll keep ‘em happy.

The Mars version of dial ‘n ditch.

The old way seems more fun and had way less heavy lifting, but I’m an adaptable fella.

So that’s my plan, in its glory.

I’m gonna vent the CO2 into the Hab, turn off the Atmospheric Regulator and the Oxygenator, dump a tonne of water on the crops and ride out west.

One rover trip for man, one giant rover trip for Bucky-kind.

Chapter End Notes

I know that all I ever seem to do is apologise, but I'm so sorry for the delay. AGAIN. It's been a really bad time - we had a death in the family, another member back in the ICU, and my mother diagnosed with cancer all in the space of a few days. This has all meant my mental health took a bit of a hit, and my medication for my pain was changed to better treat the depression AND my pain at the same time and that medication has not agreed with me at all. I have zero concentration or motivation and so it's been several weeks of tweaking those meds to find a balance between pain controlled and having a thirty second attention span.

As things calm down again, I'm hoping to get back in the writing groove. But thank you for all that have borne with it through this, I appreciate the support!
These Idiots Are Gonna Save My Life?!

Chapter Summary

Back on Earth, the various teams responsible for trying to save Bucky's life come up against roadblocks. And Christine Everhart. And some kid that is probably on an Amber Alert somewhere.

Pepper might actually kill someone.

Chapter Notes

What's this, a chapter that didn't take like a month to edit? What's next, a chapter next week? I might die of shock. Also the characterisation of Christine Everhart here is based more off of her from the Antman promo stuff than Iron Man.

“Where the hell are all these reporters coming from? Are they breeding?” Rhodey asked as he strode around a corner, shouldering his way through yet another gaggle of people. “Middle of the hallway isn’t the place for a conversation, move!”

“We’re popular,” Darcy struggled to fight her way through the crowd, half of the reporters only realising who they’d let passed once he’d already turned the corner. Darcy would have paid good money for one of them to be brave enough to try and get a sound-bite. She’d had her eye on a pair of gorgeous knee-high suede boots that Jane did not pay her enough to do more than drool over, but if she’d been able to take advantage of the over-under on Rhodey annihilating one of the many idiots that populated their halls now, she could have ordered them in several colours.

“Couple months ago you couldn’t pay half the people back there to cover this beat, now they’re just,” Rhodey waved a hand, “milling around. Getting in the way.”

“You could stay in your office.”

Rhodey scowled at Darcy. “Are you determined to be unhelpful today?”

“I’ve been all manner of helpful today,” Darcy argued. “Jane hasn’t destroyed a single piece of equipment or locked herself into her office in meltdown mode. Last time she did that it took me five hours to get her out. I’m on a break.” She held up the coffee and pastries in her hands, offering Rhodey a treat from the bag slung across her body.

“That you’ve chosen to spend with me. How nice for me.”

“Isn’t it, though? My amazing company and a,” Darcy squinted at the pastry Rhodey had selected from the depths of her tote, “cheese Danish. Could be worse.” She didn’t mention that if he’d selected the single bear claw, it would have been much worse for the Director.

Rhodey was forced to admit there was truth in that. Last time he’d had to head on over to Pepper’s
office rather than try to phone her, he’d been waylaid by a mixture of anxious NASA personnel and rabid journalists that’d slipped their leash and escaped Pepper’s strict penning of them in the Press Room, all of them to a man too high on the smell of fresh meat to register the perils of badgering the Director Of Mars Missions.

It’d been a blood-bath.

He also hadn’t gotten a Danish out of it. With Darcy by his side, people were far less likely to try and interrupt. She had a reputation of getting stamp-y with her spiked heels and zappy with her taser.

She was a gift from the Gods.

“Why are you here?” Rhodey asked, biting into what was a long overdue breakfast. From the darkness that enveloped the world outside the building, it was a very overdue breakfast, which explained why his scalp felt four sizes too small and there was a pounding headache threatening to pulse his eyeballs from their sockets. From the slight crunch, the pastries were day-olds, but he wasn’t complaining – a week old pastry from Isabel’s was still better than any fresh in a fifteen mile radius. Definitely better than anything the canteen might offer.

“I’m looking for Pepper.” Darcy sucked jelly off her finger, pulling it free with a pop before inspecting it for residue. “Figured you’d know where she was.”

“Isn’t she in her office?” It was where Rhodey was heading in a hope of discussing her proposal for a daily segment on a major news channel. In particular, exactly what his role would be.

“Nope, but someone is.” Darcy’s smirk was wicked as she waggled her eyebrows. There was no point asking who it was, Darcy would garner far too much amusement from his interest, and he had to trust that it was all someone else’s problem. “You’re just pissy because you’re gonna have to go on The Barnes Report tomorrow.” Darcy had continued down the hall a few metres before discovering the Director was no longer with her. Instead he was frozen, Danish hovering just in front of his mouth, eyes staring at nothing.

“Guess you didn’t know that, huh?” She made the mistake of sniggering. Rhodey’s gaze slid to her, eyes narrowed as he ripped off a bite of his pastry. Darcy put her hands up, a soft moue escaping when a chunk of her pastry fell to the floor. “Don’t kill the messenger. I am not dying for Christine freaking Everhart.”

“Nobody is dying for anyone.”

Darcy’s shoulders dropped in relief, scampering behind the Media Director, peering around one well-dressed shoulder to watch the show. “He’s gonna go banana-balls if you put him on that show.” Glee dripped from every word.

“He’s not getting a choice.”

“It’ll be fun,” Darcy called over Pepper’s shoulder, unable to resist poking the bear now she had a shield. “You love interviews.” She reached out and snagged a passing intern. “Tell Rhodey how much fun he’ll have on TV.”

“Who?” the young man’s eyes were wide, confused as he glanced to the Director opposite him with no sign of recognition, but faintly delighted at being grabbed by the beautiful Darcy, the strain of not letting his gaze drift to Darcy’s impressive cleavage obvious.

She shoved him away in disgust. “Oh, go deliver mail or whatever it is you do.” The unlucky man
opened his mouth, no doubt to inform her just what it was he did, or maybe just to try asking her out, but shut it again when Rhodey shook his head.

It wasn’t worth it.

“We need a better class of intern,” Darcy bemoaned as the harried-looking man made his escape, barely stopping to gather up a file that fluttered to the ground. “Who do I speak to about that?” She snapped her fingers and whirled back around to face her colleagues, Pepper frowning as she had to lean backwards to avoid being hit by hair or tote. “Ooh, I want my own intern. Is that something I can have?”

“No,” Pepper and Rhodey answered together, setting aside their differences.

“I’ll feed it, I swear. I’ll make sure it sleeps and takes breaks. I can even get one of those extendable leashes, take it for walks. I swear, I’d be the best boss ever.” She frowned, brow wrinkling. “They come housebroken, right?”

“You can’t have an intern,” Rhodey repeated.

“What about if Jane says I can?”

“Then she can pay for it.”

“Sold! Do I get to name it? Do I have to share my office? Will I get an office—”

Rhodey held up a hand to stem the torrent of excited babbling, and Darcy dug around in her bag, removing both a bear claw and her phone, stuffing one end of the treat into her mouth while her fingers flew across the keys, tapping out who knew what, likely to Jane.

“Barnes Report?” Rhodey turned to Pepper.

“It’s happening, and you’re doing it.”

“Why can’t Tony—”

Darcy made a choking sound and Pepper reached out without looking, taking a hold of the bear claw so Darcy could cough without risk of losing it, her choking sounds giving way to what was suspiciously like barely stifled laughter.

“I thought you were the Director of Mars Missions. You’re the head of this mission, you’re our front-man.”

Rhodey scoffed. “You’re really going down that road? Tony is the Director of this mission. I am the Director of all of them. Which means I’m busy, Pep. I have a man to rescue. I have teams to oversee. I have squabbles between departments to referee. I have Stark to wrangle. I don’t have time to be dealing with Christine—”

“Freaking.” Pepper shoved the Danish back into Darcy’s mouth, ceasing the flow of commentary.

“-Everhart.”

Pepper rolled her eyes.

“It’s being filmed on site. It’ll take less than an hour of your time. Delegate. Trust your supervisory staff. Banner will be on a conference call to Tony for—”
“A playdate to keep him out of trouble?”

“Close enough.”

“Why do I get the feeling you’re not telling me everything?”

“Nothing you need to worry about.”

Rhodey looked up to the ceiling as though praying for strength before raising his pastry. “I hate getting bad news on an empty stomach. You mind if I finish my breakfast first?” So saying, he took a massive bite, raising his other hand to forestall his friend’s lecture on the importance of healthy eating habits. Darcy thrust her coffee cup towards him to help wash it down, the Director wincing at the overly sweet beverage but grateful none the less.

“Okay.” He squared his shoulders and sighed. “Hit me.”

“I’m not sending you to your death, Rhodey.”

“Pepper.” Rhodey glowered at his friend,

“You’re going to be her first guest. Only guest.”

Darcy peeked around Pepper to take in Rhodey’s expression in all its glory. It spelled out ‘fat fucking chance’ in bold letters. She knew without looking that Pepper’s expression retorted with ‘too bad.’

“The agency needs this show to portray us and our endeavours well. The easiest way to do that is to have a competent, well-spoken-”

“Attractive.”

“Commanding presence,” Pepper continued, ignoring Darcy. “I’ve been doing this a long time, Rhodey. I know what I’m talking about; NASA is on trial, far beyond the murmurings of Senators in Washington. Remember the funeral?”

Rhodey looked wary but nodded.

“That stands more now than ever. Between the inherent tragedy of the situation, we’ve got a photogenic grieving family, against an agency that is facing increasing cuts and complaints. This is the problem at hand and we both know Everhart. She’s going to be on the attack from the moment those cameras are rolling.”

Rhodey snorted.

“My point is, I need someone who isn’t going to rise to the bait, be flat-out offensive or appear unsympathetic.

“Meaning no Tony, even more no Tony, and no Fury,” Darcy ticked off.

“Then ask Hill.”

“Rhodey.”

“I don’t need the stress or the aggravation of dealing with that woman.”

“You don’t need the life-threatening danger of dealing with me if you don’t.”
Rhodey looked tired and defeated as he ran a hand over his scalp. The very opposite to how Pepper wanted the agency’s public face to be.

“Fine,” he conceded with as ill a grace as he could muster before snatching the paper bag from Darcy’s hands and stalking off.

“Jokes on you!” Darcy called after him. “There’s only one of those raisin things left!”

“Pain au raisin”, Pepper supplied. “They’re his favourite.”

“Ugh, really?” Darcy shot a disgusted look down the hall. “Who knew he had a flaw?”

“Speaking as the woman that’s going to hear nothing but shit about The Barnes Report for the foreseeable future, I did.”

“What’s the deal with the Rhodester and Everhart?”

“It’s…complicated.”

Darcy snorted. “That’s a Facebook status, not an answer. Unless…” She smirked. “Did Everhart and Rhodey do the do?”

“What? No!”

Darcy deflated. “You’re not going to tell me, are you?”

Pepper just stared at her, before turning to walk away towards her office. Darcy threw up her hands and pivoted around to follow the Media Director down the hallway. “I get that, I totally respect that. Really, I do.”

Pepper shook her head, well aware the intern was already planning how to approach Rhodey without dying in the attempt. Or worse, asking Tony.

“What do you want?” Pepper asked not unkindly as she looked to Darcy, accepting a stack of files from a passing colleague.

“I already got what I want.”

“You came to ask me for an intern?”

“Oh! Yeah, no.”

Pepper raised one perfectly arched brow when Darcy didn’t continue, choosing instead to cram the last of her Danish into her mouth, a ring of powdered sugar left around her lips. “And?”

“Pffss a-” Pepper took a step sideways to escape from the spray of crumbs and icing, Darcy throwing up a hand in apology at Pepper’s appalled expression, causing the Media Director to take a hurried step back when Darcy’s sticky hand reached out to try and brush the stray crumbs from Pepper’s couture.

“There’s a kid in your office.”

Darcy’s words barely penetrated Pepper’s consciousness as she flipped through one of the folders she’d acquired. When a hand appeared in front of the page, blocking her view she looked up.

“Huh?”
“There’s a kid in your office.” Darcy helpfully thumbed over her shoulder in the direction of the room in question, from which a couple of thuds and a muffled curse sounded.

With a sigh, Pepper shrugged her shoulder until one of the straps of her bag fell down her arm, allowing her to dig around the inside. “Tony’s probably hungry, I’ve got a power bar somewhere—”

“Not Tony. A real kid. Like, high-school age or something, but he looks twelve. Unless this is an ‘I had a secret love child in college and gave him up for adoption’ thing, I’m guessing he doesn’t have an appointment.”

“And he’s in my office?”

Another thud, far louder this time, answered for Darcy.

“Why is there a 12-year-old-looking-highschooler in my office?”

“I dunno.”

“You didn’t ask?! I don’t have the time, the energy, or the inclination for this today, Darcy.”

Darcy held up her hands in supplication. “They don’t pay me the small bucks to ask questions. I came in to ask you if you wanted to get dinner with Jane and me, and there he was, tapping at your computer.”

“My computer?!” Pepper stepped around Darcy, powering towards her office door. Darcy checked her watch and unlocked her phone: if she was lucky, Jane would get the text just as she came out of her budget meeting and wouldn’t miss too much of what she was sure would be some quality free entertainment.

Shame there wasn’t any popcorn.

Or pastries.

Scurrying after Pepper, Darcy managed to skid around the door just as Pepper dropped her bag onto her couch and rounded on the kid behind the desk. Plopping down onto the rich leather beside Pepper’s abandoned Birkin, Darcy winced as Pepper pushed the kid’s feet off the desk.

“Can I help you?”

“Miss Potts? Oh my God, it’s really you. I’m so glad you’re here. But of course you’d be here, this is your office. Which you know, of course you know because it’s your office and it’s got your name on it and everything.” The young man leapt to his feet, hands outstretched in front of him as he approached a wary Pepper, the Media Director backing away slowly. Darcy, for all she was not-at-all secretly enjoying the situation, discreetly slipped her hand into Pepper’s purse, a small portion of her mind thrilling over the softness of the leather, and closed her fingers around the taser she’d bought her friend the year before.

Just in case.

“I really need your help. The Academy is gonna flunk me, and that’s gonna make my grandma even worse, and trust me, nobody wants to see that because I didn’t even think it was possible but apparently it is and that’s just gonna make my dad’s life miserable, which will make my life miserable, and I needed help so I asked myself, what would Peter Parker do? Which led me here.”

The kid waved a hand at Pepper’s office.

“Didn’t I-? Oh, right. S’up, I’m Miles. Miles Morales. Nice to meet you.” The kid, Miles, held out a hand, Pepper reaching for it out of habit.

“You know you’re not supposed to be here, right? Did you sneak away from a tour group or something?”

“Do your parents even know you’re awake at this hour?” Darcy interjected, pointing out the window at the dark night.

“Hey! I’m not that…stop yelling at me! I know I’m too young to really be in the Press Room, or whatever, and I know I’m not supposed to be up here and everything, but I kind of really need to get an amazing grade on this class I’m in and I need you to trust me on this, please! But-”

“And you couldn’t get it the old-fashioned way?”

“There’s an old-fashioned way?” Miles asked Darcy with a frown.

“Studying?” Darcy queried slowly, glancing back and forth between Pepper and Miles.

“How did you even get up here?” Pepper asked, completely lost and hating the feeling.

“Uh, people don’t really see me? It’s like camouflage, I just sort of blend into the background. It’s a skill.”

Behind Pepper, Darcy snorted. “Kid, you’re shorter than me and gotta weigh less than me.” She looked annoyed about the latter. “It’s not skill, it’s a lack of puberty.”

“Hey!”

“Skills aside, do you know how much trouble you’re in?”

“I had to, okay? I knew I couldn’t get into the Press Room. And I might have, uh, told my teacher that I could get an exclusive interview with you, and this girl overheard and she said that if I did, that she’d go out with me and-”

“This is about a date?!”

“When you say it like that it sounds weird, but you haven’t seen her! She’s insanely hot. Not that, like, you guys aren’t, because,” he broke off to whistle, “but she’s a whole other thing. Like, super cool, out of this world hot. You’d think someone at NASA would appreciate that.”

“I do,” Darcy raised her hand and Miles gestured to her as though to say ‘see?’ Pepper appeared unmoved.

Miles’ face fell when he glanced at Pepper, his shoulders slumping.

“Am I in trouble?”

“I think you’ve been in trouble since you thought of this scheme. I’m calling security.” Pepper reached out for the phone, gasping when Miles reached out to pluck it from her grasp.

“Woah, kid, you’d be awesome at basketball with stealing like that. I call him for my team. Banner’s got this secret weapon and it’s time I got a ringer. Especially if Pep won’t utilise her height for good.”
Pepper twisted to face where Tony was filling her doorway. “Did we adopt when I wasn’t looking?” The colour drained from Tony’s face. “Tell me this isn’t some sort of ‘my mom finally told me who my real dad is’ situation.”

“Tony, what?”

“Daddy?” Miles stepped around Pepper quickly, a mischievous glint in his eye, nipping past Darcy who was fumbling to re-open her phone to get to the camera app, and making his way to an increasingly pale Tony, the Director backing out of the doorway and smacking into the opposite wall.

“Daddy, is it really you?” Miles threw himself onto Tony, hugging his limp form tightly. Tony’s eyes were saucer-wide as he stared at Pepper, hands weakly flexing at his sides.

“Uh…kid? You’re just messing with me right? ‘Cos the more I look at you the more I’m worried I’m seeing a family resemblance and it’s freaking me out.”

“Mr. Morales,” Pepper called, “if you’re done, I’ll be getting security to escort you out.”

Miles let Tony go, the Ares 3 Director left leaning against the wall, unsure what the hell was going on, but he quickly pushed himself up to follow the kid back into Pepper’s office determined to find out.

“No, no, no! Hear me out, please! Any chance you and I could just go get a cup of coffee or somethin’? Talk about this?” Miles reached for the phone again, but Pepper was too fast, holding it just out of reach.

“It’s not just about the girl,” Miles admitted in a whisper.

“There’s a girl?” Tony stepped around Miles to stand beside his partner, gently taking the phone from her grasp and dropping it back onto the cradle. “C’mon, Pep, help the guy out.”

Miles brightened, shooting Tony a broad grin in thanks.

“Shut up, Tony.”

As fast as it had appeared, the smile dropped, but Miles rallied.

“I got into this school, right, and it’s good, it’s great. But I’m kind of behind, because there was this thing – I got kinda caught up in this web of…that’s not important, but I tanked my midterms and I asked for some sort of make-up test and the teacher said the only way I’d get a good enough grade to finish the semester with the grades I need to keep my scholarship, was if I managed to get an interview with you for the school paper.” Miles turned and pointed to Tony. “And you, actually, Mr. Stark. So I said I could totally do that. If I could talk to the Ares 3 crew, I know I’d even get extra credit. You’d be saving my life. Literally. My grandmother will straight up kill me if I flunk out. She will kill my whole family but she will kill me a lot.”

“Whaddya say, Pep?”

All eyes turned to Pepper.

“I say I don’t reward kids that break into my office and root around in my computer.”

“I wasn’t! Honest. I was trying to book a ticket for a bus home. My roommate is covering for me this weekend but I gotta get home for class on Monday.”
Tony’s eyes lit up. “Kid, you’ve come to the right guy. Why Greyhound your way back to-” He frowned and waved a hand at Miles.

“New York.”

“Back to New York, when yours truly could send you home in sty-”

“Everyone freeze! On your knees, kid.”

Everyone in the office whirled to the door, a burly security guard filling the doorway, gun in hand. Darcy instantly raised her hands, taser still gripped in one fist, eyes darting from the guard to Miles and back again.

“S’up. Uh, do you want me standing still or you want me moving?” Miles asked, palms up but hands by his hips.

“On your knees.” The guard

“Not necessary.” The guy’s eyes slid over to Tony. “Yes, it’s me. Tony Stark. I’m sure this is very exciting for you, story to tell your grandkids and all, but put the g-” Tony peered at the item in the guard’s hands, “-taser away.”

“Put I don’t know who this guy is and there was a report of-”

“A kid being black?” Miles asked. He turned to Darcy with a wounded expression.

“What the helly hell? I thought we were cool!”

“Hey, it wasn’t me! I’m on your side.” She gestured to the unsure and confused guard. “This moron broke my ipod on my first day here, I’m not gonna call him for a damn thing!”

That got the guy to drop his weapon a little.

“I said I was sorry, Darcy.”

“Sorry doesn’t get my songs back, Gary. It doesn’t get my songs back.”

“They’re on your laptop!”

“Don’t tell me where they are. Not in my ears is where they are!”

“Can we get back to not arresting me for something I didn’t do?”

“Technically, kid,” Darcy began, “you did sort of-”

“Hey! Stay on my side!” Miles turned to Pepper with a cautious smile. “I’m not in trouble am I, Miss Potts?”

“Is he Miss Potts?” Tony asked.

Pepper dropped into her chair, frowning at the adjusted lumbar support, and sighed. “I don’t care, Tony.”

“Yes!” Miles punched the air, Gary flinching and raising the taser again. “Woah there, Big Fella.”

“Gary, howsabout you just chillax with the tazing?” Tony reached out with one hand to push the
raised weapon back down, while Miles caught Darcy’s eye and mouthed ‘chillax?’ at her much to her own bemusement.

“How about you all get out of my office before tasing is the least of your concerns?”

“Ma’am?” Gary queried, visibly concerned at the idea of leaving her with a crazed man, a security-risk kid, and a girl that he was fairly sure was armed.

“Fair maiden is safe, Gare-Bear, I guarantee it. So, bravo on the response time and everything but I’m sure you’ve got a million pieces of paperwork to do over this or a taser to charge or whatever.” Tony rolled his shoulders in a strange half-shrug and nodding encouragingly as Gary slowly returned the taser to the holster on his hip, and Miles lowered his hands.

“If you’re sure, ma’am.”

“I’m sure.”

“Because I can radio Mr. Hogan no problem.”

“Not necessary!” Pepper exclaimed with a violent shake of her head. “Really. I just…I’m busy,” she gestured to the piles of paperwork around her. “I’d really like to get back to work and pretend that whatever this,” Pepper waved a hand at the group by the door, “is, isn’t happening.”

“C’mom, kid.” Tony gestured for Miles to get his stuff. “You have some questions, I’ve got some answers. May not be to the questions you ask, but you’ll learn a lot.”

“Keep it PG,” Darcy called as Tony threw an arm around Miles’ shoulders.

“R,” he bartered back.

“PG.”

“PG-13?” Miles chipped in.

“Get out of my office,” Pepper cut in. “All of you. And someone, call his parents.”

“C’mom, Darcy. The fun train is leaving the station.”

“Uh, does the fun train stop at the canteen,” asked Miles, “cos I missed lunch. And dinner.”

“Ah kid, I’ve got just the treat for you. Pep, we’re gonna get take-out, you want.” Tony looked over his shoulder at his partner only to turn back and hustle the other two out even faster, Gary getting pushed backwards towards the door as the group advanced, his reluctance to let Miles go free and rewarded obvious. “Sorry Pep,” Tony whispered as he went.

As the door closed behind the group, Pepper dropped her head into her hands and screamed into her palms as her phone and cell both began to ring.

“Hello, and welcome to the very first Barnes Report here on WHIH,” Christine Everhart said into the camera with a smile.
The petite blonde sat ramrod straight in her chair, posture prefect. Her hair was immaculate, the ends as razor sharp as her tongue, her makeup perfect, a flawless blend of ice queen and beauty queen. Knowing what he did from Pepper’s many diatribes on polls and test audiences about how she worked the system with how she presented herself during briefings – hair down with a slight wave when she wanted to appear more approachable and softer while wearing clothes of a more neutral shade, but when she wanted to remind the world just how competent she was, just how she was not to be underestimated, her hair was often pulled back into a severe ponytail, her ensemble sharp and monotone - Rhodey wondered if the cool shade of red that coloured Christine’s lips had been polled for how no-nonsense and professional it made her appear. As Rhodey adjusted the collar of his shirt to stop the mic pinching his skin, he wondered if the no-doubt expensive dress had been tested to find the perfect balance between sex appeal and professionalism. He couldn’t see them, the reporter having already been seated when Rhodey had arrived on set, five minutes late because he had a man to rescue for fuck’s sake, but he felt confident in assuming that her heels would be terrifyingly high and exceptionally pointy.

All the better to stab him in the back with.

They hadn’t even started, and already Rhodey was uncomfortable. He had no idea what the room had been used for previously, for any clues had been moved out before WHIH had moved in their cameras and green screen and personnel and converted it to their on-site studio. Whatever it was, it clearly hadn’t required an AC that worked properly; the lights had turned the small space into a sauna, the heat like a wall when Rhodey had rushed into the room, instantly being whisked off to an unstable director’s chair – and hadn’t the makeup woman found that hilarious – to have powder dabbed and lip balm applied.

Every reason Rhodey despised interviews and press had come flooding back when he’d stepped in the door.

And then there was Christine Everhart.

Honestly, Rhodey didn’t give a shit who fucked who – Tony’s little black book ran to several volumes before he’d ritually burned them when Pepper had deigned to date him, likely against her better judgement much of the time. If Rhodey disliked every woman that had screwed and/or screwed over his best friend, he couldn’t have spoken to most of the women on the East Coast.

Rhodey had respected her once, even if he’d never truly liked her. She’d been ruthless in her pursuit of the truth, dedicated and profoundly gifted at sniffing out a story, especially the ones that large co-operations didn’t want her, or anybody, to find. She’d held firm beliefs based on freedom and fairness for all. She could be disrespectful, true, even cruel at her worst to those that didn’t further her along her career, or that she deemed beneath her, but that was true of half the people in the building. But something about her just rubbed Rhodey the wrong way. He couldn’t really put his finger on it at first, what it was about her that made his hackles rise.

Until he could.

Something had happened to her after she’d left Vanity Fair. Over the years since, Rhodey had watched Everhart become ever more conservative in her viewpoints, ever more mired in gotcha journalism, consumed by ratings and viewership, no longer listening to the voice of both sides, but simply picking a side and then ripping into the opposition. Time and again Rhodey had seen her guests try and change her mind, try and reason with her, and ten years ago it would have worked, but not now.

Pepper must have been out of her fucking mind to have selected Everhart for this. Rhodey would have happily turned up to ‘The Barnes Report with Jessica Jones’. Pepper wouldn’t have had to
order him to turn up for that, he’d have paid for the privilege.

Instead, he was left with a reporter that had spent the last few years questioning and deriding NASA’s continued existence. Every mission, every new frontier, she was there, with her favoured guest retired General Ross, to pick apart and decry every dollar that went to NASA. Her favoured targets were the duo of Rhodey and Stark. Rhodey didn’t care too much about her attacking him, he was more than used to that, years of sadistic Drill Sergeants and superiors had trained him well for dealing with the press, but Tony…

For all he laughed it off, he never laughed it off.

Then two years ago, Everhart had written a scathing article about Howard Stark in which the words ‘war-monger’ and ‘murderer’ had been front and centre. Tony’s relationship with his father had always been complicated, ever more so after Howard’s death, when all chances of reconciliation, of finally being able to understand each other were lost. To see Stark Industries, all the good the company had done, all the advancements it had helped create, reduced down to its weapons division…

Uncharacteristically for Everhart, a good third of her article had been based upon rumours and hearsay, the newspaper that had run the piece issuing an apology within days for the unfounded accusations, but the damage had been done and Howard’s legacy had been besmirched.

Rhodey had never really forgiven Everhart for that.

“Here with me today is Doctor James Rhodes, the Director of Mars Missions at NASA. Thank you for joining us, James.”

“My pleasure,” Rhodey gave a tight smile. He was wrong, there was something he hated more than the constant press conferences. He hated the faux-familiarity of using his first name, knew all too well Everhart was choosing to use it so as to strip him down. Rhodey didn’t give a shit if people called him Doctor or not, Director or not, but the flare of triumph in Christine’s eyes as she called him ‘James’ just pissed him off.

Pepper had better appreciate this.

“Let’s dive in. The story is well known, but let’s revisit the details. On Sol 6, in response to a storm, NASA opted to scrub the entire billion-dollar mission.” Rhodey felt his temper flare, but years of serving in them military had schooled him in keeping his expression neutral. It had hardly been just a little storm, as though it’d been a bit of wind and rain.

“The remaining members of Ares 3 claim that Bucky was blown away.” Christine nearly laughed as she said it and Rhodey clenched his jaw so hard he was sure he could hear his teeth crack. Christine smirked, her tone disbelieving as she delivered her words straight to the camera. “Romanoff stated she received data that allegedly indicated the breach of Barnes’ suit, that he had been compromised and Doctor Barton later declared Barnes dead.”

Rhodey held up a hand. “I’m going to stop you there, Ms Everhart. The crew did not claim anything. They gave, as they have done since they left Earth orbit and continue to do, an accurate account of event—”

“How do you know?”

“Are you calling the crew liars?” He asked. “Bear in mind,” he continued over Christine’s half-hearted denials, “that you are accusing two decorated war heroes.”
"I know that as a military man, you feel the need to defend."

"You're right. I am a military man. Unlike you I have served my country. As a result I know the brave men and women that fight for this country. I know these two men in particular. I am honoured to call them my friends. Romanoff is one of the world’s most respected technological minds, admired by colleagues for her honesty and candour. Barton is a national hero, not just for his Olympic success, but to the millions of people here and around the globe that have ever been made to feel less-than because of their disability. I know both Romanoff and Barton take their positions on the crew extremely seriously and part of why they were selected was because of their forthrightness. Odinson is considered one of the most honourable members of not only his field, but also within NASA. So let me ask again, just so we’re all clear, are these the people you are accusing of lying in their official reports?"

Direct hit, if Christine’s narrowed eyes and flared nostrils were any guide. Rhodey didn’t allow him the luxury of enjoying the moment too much; no doubt Everhart would seek her revenge.

"Let me be clear, James," Christine stressed his name, “it’s not me suggesting the crew is lying.”

"Oh?"

"The public has been asking—"

"Then the public can rest assured that the logs, which were released to the public immediately after the announcement, are backed by the data from both the MAV’s internal system as well as the data received from Barnes’ suit, both sets of which were also released."

"Couldn’t an argument be made that the data can be manipulated to state exactly what you want it to? NASA had that data for weeks."

"So you’re now accusing the entire agency of conspiracy?"

"I’m not hearing a denial," Christine clasped her hands.

"Is it technically possible to manipulate that data? Potentially, yes."

"So how are we expected to bel—"

"If you’d let me finish, Ms Everhart, I would appreciate it."

Christine sat back and gestured with her hand for him to continue. “By all means.”

Rhodey flashed an insincere smile he knew Pepper would take him to task for.

“There were reviews of that data, both internally and externally. Both of these investigations, conducted by NASA and The Oversight Committee, confirmed that the data has not been manipulated in any way.” Rhodey frowned. “Unless you are now making accusations against Oversight, headed by Senator Stern and General Ross.” He smiled. “You know the General quite well, don’t you? Does that sound like him? The manipulation of data?”

It absolutely did, Ross was ruthless in his pursuit of what he considered to be the truth, regardless of consequences to others, but he was also loudly and proudly critical of NASA and its operations. The day he helped cover up something as big as this would be a cold day in hell.

Christine ignored the question, leaning back in her chair.
“As you’ve mentioned Oversight, I’m sure the committee has the same question that I do, that I’m sure many of our viewers do; how was this allowed to happen?”

“In order to answer that, I first have to correct the inaccuracies in your earlier statement. Barnes was not ‘blown away’. As the reports state, the storm was so severe that not only the MAV was compromised but the equipment around the Hab, including the comms array.”

“Why wasn’t-”

“You really must let me finish,” Rhodey said firmly. “By the necessity of their function, the dishes are large and in a situation such as a severe storm, they catch the wind. If the force of the wind is strong enough, the dish will get ripped out of its moorings, just like here.” Anticipating Christine’s next interruption, Rhodey continued. “The storms monitored at the Ares 3 site when it was considered appropriate as a mission site and all the way up to when the crew landed, hadn’t approached anywhere near the strength of the storm on Sol 6. The wind tore up the Comms array and that is what struck Barnes.”

“So you’re saying it was an accident?” Christine’s tone was disbelieving and mocking.

“Of course that’s what I’m saying. Just as accidents happen on Earth, they happen in space. We attempt to anticipate any scenarios that could occur, but in this case, we couldn’t have predicted this situation.”

He should have seen the trap for what it was.

“I ask, because I’m curious: what do you have to say to those out there that disbelieve that no real missions to Mars have indeed occurred, and that in fact the Barnes tragedy is actually a smoke-screen to allow the program to be shut down without further review, due to diminishing returns on taxpayer investment?”

Rhodey couldn’t help himself, laughter bubbling up before he could stop it. He’d been expecting an actual question, something more like the old Christine, biting and insightful. This was just conspiracy shit.

“Is that your answer, Director Rhodes?” Christine’s irritation bled into her tone, which only amused Rhodey more as he regained control.

“I’d say,” he answered, fighting his amusement, “that NASA is more than used to such baseless theories. Since our founding in 1958 we have operated as an open program. During Apollo 11, another mission that was rife with conspiracy theories, over 3,500 media representatives from around the globe covered every moment of the mission from conception to splashdown. When Ares 1 was announced, that number was doubled. We live, as you well know, Ms Everhart, in the digital age. There is no possibility that we could ever, even if we wanted to, fake any part of any mission.”

“Are you denying that interest in NASA is at an all time high? Even higher than during Apollo 11, when only a few months ago it was far, far lower?”

“No, however there is no correlation between interest in NASA and whether we faked a death.”

“But surely that interest could be parlayed into further funding, yes? It could be seen as awfully convenient that just as interest wanes, NASA announces a miracle. Can you deny that that there are meetings in Washington about issuing emergency funds to rescue Barnes?”

“Are you suggesting we let him die?”
“I’m suggesting that the American tax-payers shouldn’t have to shoulder the financial burden—”

“They’re not.”

“Excuse me.”

“The American people will not be alone in providing funds. Twenty-five countries around the world have offered significant financial assistance. Those countries conducted polls as to whether it was the right choice. Their people spoke, and the assistance is on the way. Other countries are currently considering the same. Are you saying that the American people wouldn’t make the same decision to aid the effort, because I can tell you, Ms Everhart, that every day we here at NASA, at JPL, we receive emails and calls and letters, messages from children that want to donate the dollar the tooth fairy left them. Messages from social clubs that have had bake sales and sponsored events to raise money to donate.” Rhodey leaned back in his chair.

“I know the American people, Ms Everhart. They are behind us. They are behind Barnes.”

“I’m sure they are, as are all of us here at WHIH.”

Rhodey was going to have to be extremely careful leaving the office today if he didn’t want to find one of Christine’s stilettos between his shoulder blades. On the other hand, the chances of being asked back were diminishing with every passing second.

Every cloud had its silver lining.

“Moving on. The issue of whether more governmental control and transparency of NASA’s dealings is required is quite the hot-button issue.” Christine spoke into the camera, “Particularly in the wake of what we’ve all seen happen to Barnes.” She turned to Rhodey. “What do you feel about the accusations that NASA tried to hide the truth about Barnes’ survival?”

‘I think it’s complete bullshit and the inane cries of a minority in need of getting out more.’ Rhodey knew of those conspiracy theories only because Pepper’s team kept an obsessive eye on every blog, forum, and site. How the team didn’t spend the day laughing their asses off, Rhodey had no idea.

“I know them to be baseless rumours.” Christine sighed and raised an eyebrow. “Rumours that are fuelled and spread by people such as yourself.” Christine scoffed but Rhodey ignored her. “We here at NASA take our responsibility very seriously; we are a public agency, and are transparent in all our endeavours on behalf of the advancement of mankind.”

Christine clasped her hands, bracelet tinkling against the desk as she leaned closer to her guest.

“Then can you explain why NASA took nineteen hours to release the images from the MRO satellites.”

Rhodey resisted the urge to sigh.

“Surely that’s obvious, Ms Everhart,” he responded calmly, which clearly wasn’t the defensive reaction she’d expected.

“We are required to release all images in twenty-four hours. We were well within that deadline.” ‘Thank you, Pepper.’ “The discovery was possibly the greatest we’ve ever had. It would have been extremely irresponsible to release the images without verifying the findings.”

Christine scoffed again, but Rhodey cut her off before she could speak, hating himself for what he was about to say, making a mental note to call the Barnes family when the interview was finally
over. “How could we release the images before being sure, how could we let the Barnes family see them, become bombarded by the press? Their wellbeing was very much in mind as we made the determination that Barnes had indeed survived. We also wanted to inform Barnes’ mother and sister in person before the images were released. Wouldn’t you want that if it were you?”

The near imperceptible flinch told Rhodey he’d won that round, as did how Christine reached for the pages of copy that sat before her, shuffling them in her hands before knocking them against the table, laying them flat and resting her clasped hands atop them.

“Moving on. As you’ve mentioned, people around the world are behind Barnes. Do you think it’s fair to say he’s the most watched man in the Solar System?”

“He’s certainly the most watched by NASA. All 12 of our Martian satellites are aimed at Ares 3 whenever they are in position. The European Space Agency has dedicated their time as well, which we’re grateful for.”

Christine smiled. “How often does this combined effort provide images?”

“Every few minutes, enough to track his movements, despite gaps.”

“There’s been a lot of activity in Acidalia Planitia with Barnes carrying out numerous EVAs over the last few days. Can you tell us about these EVAs? What are they for? What progress has been made on a rescue plan? Will this affect Ares 4?”

“He appears to have modified one of the rovers; he’s taken the battery from one and attached it to the other, and prepared a harness for solar panels for recharging.” Rhodey stuck to the cards he and Pepper had prepared before he agreed to the interview, now that Christine was deigning to stick to the agreed upon questions.

For however long that reprieve lasted.

“He went for a drive, didn’t he?” Christine prompted, rickkus smile in place as she worked to regain control of the interview.

“He did. He took it around the Hab, likely testing his modifications. The next day he went further afield, probably for similar reasons.”

“Now, however, he’s staying back at the Hab.”

“There’s evidence that during the missed periods of imagery, Barnes is moving back and forth between the Hab and the rover. As a result, we think he’s potentially stocking the rover with supplies.”

“Much has been speculated in the media, and I’m sure in people’s homes, that Barnes’ only hope for survival is if he is able to get to the Ares 4 site at Schiaparelli to be rescued by the crew when it arrives in a little under four years. Do you think all the work he has been doing is to that end?”

“Probably,” Rhodey conceded. Christine’s tight smile suggested that getting information out of Rhodey was harder than getting blood from a stone. Rhodey let a couple beats of silence pass because Tony wasn’t the only one that could be an asshole. “Because of the lack of Comms, we currently have no way to tell him that we know he’s alive, that we know he needs help. He likely suspects Ares 4 is his only chance.”

“With all this activity that’s been going on in the last few days, are you concerned that he’s planning to leave for the site sooner rather than later?”
Rhodey huffed. “It’s definitely crossed out minds, but we hope not.”

“He must be aware that it’s too early. Can you shed light on why he might be considering leaving now?”

Rhodey wasn’t fooled by her soft voice and softer smile. As soon as she thought she’d regained control of the interview, she’d go for the throat. Christine had always been gifted at scenting blood in the water.

He just really wished it wasn’t NASA’s blood.

“Barnes would be aware that the payload missions-”

“The unmanned missions that bring supplies, food, etc to the site?”

“Yes. Barnes would know that those missions haven’t launched yet. There’d be nothing for him to salvage from the site; no food packs, Hab materials, spare parts.”

“So why would he leave?”

“Because while there’s nothing for him to salvage, there is one thing that he probably considers worth the risk of leaving the safety of the Hab. The MAV. More specifically, its communication array. He could re-open communication with Earth.”

Christine frowned.

“You’ll have to forgive me, James, but you sound concerned by the prospect.” Rhodey clenched his jaw, working hard to keep his breathing even. “Do you not want him to contact home?”

‘Feed into the conspiracy theories, why don’t you.’ Anyone who believed that Barnes hadn’t died or that he hadn’t died the way the reports stated would be all too happy to believe that NASA wouldn’t want to have to deal with contact. After all, if they believed that all the footage of the Hab from the last few weeks was really an actor in Idaho in some hidden away location, they’d be more than happy to believe that NASA would do anything to avoid having to fake communication from a dead man. A man in a bulky suit in blurry pictures was just like any other, but Barnes had been the liaison between the crew and the public and after the accident his face and voice became some of the most well-known in the world.

Thank you Christine.

Counting to ten, Rhodey stared at the host in silence. Was there not enough inherent drama in the situation already without stoking the fires of idiocy? Did she really need to fake it like some MTV ‘reality’ show?

“Director Rhodes?”

“Communication is key. We would give almost anything to be able to speak to Barnes. But we wouldn’t give his life,” Rhodey answered, voice hard. “It’s not a short or easy trip, Ms Everhart. It’s not a lighthearted road-trip across the country. It’s 3,500 kilometers across unknown, unchartered and dangerous terrain. In a rover designed to travel 1% of that on a charge. Barnes won’t have the maps required for the journey. He won’t have the Hab to retreat to once he’s out of range. He won’t have the poptents in case of emergency. This trip is dangerous. Far more so than you seem to grasp. It’s not a Sunday jaunt, or something to be taken lightly. To reach Shiaparelli will risk Barnes’ life. For now, we would rather he stay put.”
Christine leaned forward. “But surely he can’t stay put forever,” she pressed. “He needs to get to the MAV at some point.”

“Not necessarily.” Rhodey shook his head. “The JPL is currently implementing tests in the simulator on modification of the Ares 4 MDV that would allow us to land it at Ares 3, collect Barnes, and then through a sustained, lateral flight, continue on to Ares 4. That would negate the need for such a dangerous journey.”

Christine smiled. Not the measured, oh-so-sweet smile that showed off her high cheekbones and perfect teeth but never reached her eyes. No, this was a smile Rhodey recognised, had seen more often than he cared to.

She’d got the scent.

Christine reached her pages of copy and shuffled them, pretending to read a note, before looking up, a gleam of mischief in her gaze. “You spoke of transparency earlier.”

It was insulting really. Rhodey hadn’t just stepped into his job, he’d been doing it for a decade. He worked with Pepper. He’d been waiting for Christine to try and trip him up and she’d telegraphed that one for a mile.

“I’m wondering how you could make such a claim as to be an open agency when in actuality, what you have just said, whilst sounding good, is utter obfuscation. Has not, in fact, Director Fury already rejected that plan some weeks ago as being too high risk to the crew of Ares 4?”

Her smile turned smug.

Rhodey gave her a smile of his own. “The first iteration, yes. However, the plan was not discarded. Plans are constantly modified and improved. Try, fail, try again. The simulator allows us to constantly improve so that implementation is perfect.”

“Is three and a half years really enough time to ‘try again, fail again, fail better?’ Is there really the time to waste on a scenario which may never from to fruition?”

“The modified MDV is only one possible solution that we’re persuing. Numerous teams are working around the clock to find a way to rescue Barnes.”

“That’s not an answer.”

“At this time it’s the only one I can offer. We made a lunar lander from scratch in seven years. This will be modifying an existing design.”

“Excellent point. Before we wrap up, I’d like to ask one more question, one that I’m sure has weighed on the minds of many around the world; what do you think are Barnes’ odds?”

Rhodey refused to be sucked into the guessing game. “Impossible to say. But we’re doing everything to bring him home alive. He’s strong and he’s smart. He won’t give up and neither will we.”

“I’m sure you won’t.” Christine’s grin was fixed as she turned to the camera. “Well, that’s all we’ve got time for today. I’d like to thank Doctor James Rhodes for being with us today. Be sure to follow WHIH right here and online at WHIH.com/thebarnesreport and twitter.com/thenbarnesreport, for the latest news on James Barnes. I’m Christine Everhart, thank you for watching.”
“Sorry about that,” Pepper said as she entered the conference room, shifting the load of papers in her arms so she could pat Rhodey on the shoulder as she passed. “I didn’t know she knew about Fury rejecting the plan.”

“Reporters always know. It’s not like I was expecting a love-in, anyway. How’d I do?”

“You showed wonderful restraint in not walking off. Or losing your temper.” Pepper gave up trying to gently set everything down and instead, after letting Rhodey take her coffee cup, simply dropped everything onto the table in front of the chair to Rhodey’s left, taking back her mug with a smile and taking a long drink, draining the last of the life-saving brew.

“Wanted to.” Rhodey pointed to the carafe set up on the table in the corner. Pepper’s nose wrinkled up in a manner that Kate, seated at the end of the table and sat next to a man she recognised but couldn’t place, deemed to be deeply unfair. She only looked disgusting when disgusted, but even so Pepper managed to look elegant when horrified at the prospect of drinking the swill that passed for coffee at most office meetings.

“Tony had the beans flown in from...somewhere?”

Kate turned to the man next to her. “Do you mean it’s gonna be good?”

“Wouldn’t know,” the guy shrugged. He held up the paper cup in his hand, index finger flicking at the small tab that dangled over the edge of the cup. “I’m more of a tea guy.”

“Waste of hot water,” Kate blurted before slapping a hand over her mouth. If this guy was important enough to be in the meeting with the other heads of department, insulting him to his face probably wasn’t a good idea. She’d been so focused on not freaking out about being in the same room as Director Fury, the man having already left when she’d been called to speak with Ms Potts all that time ago, or looking like a jabbering moron in front of the man that her filter around other people seemed to be set at -5.

Then again, she’d managed to try to maim and/or insult and/or snark at both Director Rhodes and Stark in the past few weeks, so maybe she could go for the trifecta.

The man looked down at the cup and Kate took the moment to really look at the guy, try and figure out who he was. He was cute, in an older, kind of nerdy way. His hair had a deep parting, like some of the men her father worked with used to try to make a bid for combover-dom, but this guy didn’t need that. His hair was thick and wavy, curling around a pair of glasses he had pushed up onto his head and falling over his forehead as he stared into his tea like it held the secrets of the universe.

Kate vowed to ask him what shampoo he used because damn, his hair looked good.

When he glanced up again, Kate’s eyes slammed down to the table top, feeling her cheeks heat with a blush she knew would soon travel to her ears, turning them stop-sign red. Good solid craftsmanship. No IKEA in this conference room, no sir. It was as Kate studied a whirl in the wood that she found herself musing that it was a shame the table wasn’t the same rich, deep brown of the guy’s eyes.

Eyes that were infuriatingly familiar.
“You might be right,” her neighbour opined, and Kate dared to look his way again. “Pretty sure the canteen just squeezed out a dishrag into a cup for me, but…” He shrugged and took another sip. From his expression the taste hadn’t improved since his last try.

“If you want,” Kate leaned closer, whispering conspiratorially, “you could get some coffee from over there, and I won’t tell anyone.”

He narrowed his eyes at her. “What’s your price?”

Kate grinned. “Maybe while you’re up you’d find it in your heart to refill a gal’s mug.”

“What if I say no?”

“Maybe word will get out that you drank coffee anyway? Or maybe I’ll tell Miriam you think her tea tastes like-” Kate broke off to punch the air as the guy stood up, reaching across her to grab her mug before heading over to the carafe.

While she waited, giving up for a moment on figuring the guy’s identity out and considering reaching over for his ID lanyard to be cheating, Kate tuned back into the conversation from the other end of the table.

“I need you to avoid using the word ‘alive’ in regards to Bucky’s rescue,” Pepper was saying, as she skimmed through the stack of reports in front of her.

“What? Why?”

“It reminds people he might still die.” Both of them looked up when Kate snorted and she faked a not-at-all-convincing cough, sure she could hear her barista sniggering in the corner as he shook out way too many sugar packets into his coffee. She glowered at him as he placed her coffee in front of her with a flourish, but her mother’s training held good and she thanked him.

“You really think people are likely to forget?” Rhodey knew he wouldn’t. The thought kept him up at night. It assaulted him countless times during the day. Every time he stepped outside and took a deep lungful of crisp air, he thought about how Barnes couldn’t and how he might never again. Every time he stopped off at a grocery store on his all too-rare trips home he was disgusted at the abundance of food that Barnes would kill to have. Every time he flipped a light-switch he thought about how if anything happened to the array Barnes would die in less than a day. Every time the various teams came to him with yet another hare-brained scheme to rescue Barnes, every time he had to reject one, every time Fury knocked back the modified MDV approach, etched into the back of his eyelids was the sight of Barnes’ name engraved on the Mirror.

How anyone else could forget it was the most likely outcome regardless of how they were all so determined for it to go another way, was mindboggling to him.

“You asked,” Pepper said sweetly, scoring through something that displeased her in what she was reading. “Don’t get annoyed.”

“I’m not annoyed. I’m indifferent.”

Pepper nodded, her expression disbelieving, but fond.

“I’m not.”

“If you say so.”
“Is that all you have to say on it?”

“What do you want me to say?” Pepper stopped writing a note and looked up.

“That you’ll never put me on ‘The Barnes Report’ again?” Rhodey asked, aware he sounded far too hopeful.

Pepper went back to reading, but Kate could see her smile. “What would be the fun of that?”

“Pepper!”

“Rhodey, you’re smart, you’re articulate, you’re someone not easily manipulated, and you take my instruction well.” She clicked her pen. “Most of the time, anyway. Besides, gifs of you correcting Christine and keeping your cool hit social media within three minute of the segment airing. We’re trending. Positively this time.” The Media Director nudged her phone over to Rhodey who picked it up with a look of distrust.

“Hashtag ‘nasafactsarefun’,” Rhodey read out slowly, confusion on his face as he scrolled down the feed. “’#Rhodesforthewin. #spacenerdsarehot.’ ‘#rhodescanridemeanyday’.” He placed the phone back on the table as though it were radioactive. “What the fuck?”

“What you do, don’t Google yourself,” Kate called out. She’d made the mistake of doing so after the first press conference. It hadn’t taken the tabloids long to completely dismiss her contribution to the discovery in favour of ripping apart everything from her clothes to the shade of lipstick she’d been wearing to her weight and her looks. But those articles were kind in comparison to those that had made short work of learning her family history, her father deigning to speak to her for the first time in years as a result. Her neighbour had cheered her up by showing her the couple of sites that hailed her not only as a hero, but as a positive representation for women of colour and their continuing contributions to science and history.

Even so, she’d never type her name into a search engine again. Up to and including the agency’s own intranet.

Rhodey looked up with an expression of horror.

“Trust me.”

“My team tells me that in the twenty minutes since it aired, hundreds of blogs with a variant of Rhodes in the name have popped up.”

“What the fuck?” He asked again.

“You’re a star,” Pepper said with a grin. “And we’re in dire need of one right now.”

“Sign my cup, Director Rhodes?” Asked Kate’s barista, holding out the paper cup and a Sharpie that Kate was pretty sure he’d had hidden in his hair.

She really had to ask him about that shampoo.

“Kiss my ass.”

“Do you need a refresher on how to respond if you’re approached off-site?”

“I’m not Tony,” Rhodey protested.

“Thank God for that,” Pepper muttered. “My team is preparing a report for you. Talking points,
words to avoid, words to use.”

“Great,” Rhodey opined. He sounded thrilled at the prospect of more to read.

“Oh,” Rhodey tugged the sleeves of his jacket down, fighting in vain to get the cuffs at his wrists, “and you can tell Tony he can have his suit back.”

“Don’t eat pasta when you’ve not got a spare suit in your office and you’re appearing on international TV later.”

“I was doing just fine until you crashed through my door.” Rhodey scowled. He’d been enjoying his lunch, had carved out ten whole minutes of tranquillity and quiet for himself to prepare himself for the onslaught he was no doubt in for, when Tony had burst into his office so fast the door handle had left a dent in the plaster with a sound like a gunshot. The spaghetti that fell from the fork left a red smear down Rhodey’s shirt, tie, and jacket.

“You went to war, you’re not supposed to be jumpy—”

“Uh, guys? I don’t wanna be rude, but I need to catch a flight back to LA in three hours. I need to be not here. Is Director Fury coming?” Asked the man next to Kate.

“Quit your bitching, big man,” Tony Stark, Valkyrie Flight Director, said as he walked into the room, glancing at the empty seat beside Pepper before walking around the table to slide into the chair opposite her, it all clicked for Kate.

The hair, the eyes, the sheepish smile, ‘big-man’…

‘Oh shit’. The cute, nerdy guy next to Kate, the guy that she recognised was Bruce Fucking Banner. As in the Director of the JPL.

And she’d told him that his preferred drink was a waste of water and had been about to ask him where she knew him from.

Trifecta of mortification had been acquired and she hadn’t even had to open her mouth.

She supposed she should be proud of that achievement. Was there a prize for that shit? Other than a deep and abiding desire to slide under the table and hide? Today was such a bad day to wear a ponytail. How was she supposed to hide behind her hair when it was pulled back?

She tried to sneakily glance to the side, only to find Banner looking at her, small grin in place. When he caught her gaze, he held out his hand. “Now you’ve realised where you know me from, I’m Bruce. And you are?”

“Kate.” She took the offered hand. “Kate Bishop. I really hope you’re not looking for conversation because I’d sort of like to die now, or at least disappear.”

Banner smiled, a quick flash of a thing, shy and adorable. “I don’t take it personally.” He shrugged. “I avoid the press.”

“You avoid everyone,” Tony called out. “Stop hiding your light under a bushel. Ooh, Pep, wouldn’t he do great on Christine’s show.”

“No!” Pepper and Bruce answered together. “Not happening,” Bruce stated.

“B-Man, your face is wasted hiding behind schematics and ugly glasses, you’ve got to let yourself
strut."

“I’m good as is, Tony.”

“But you could be great.”

“Tony.” Bruce’s tone held a note of warning, his hand tight around his mug. Tony sighed and let it drop.

“For the record,” Tony said, “I could totally have done ‘The Barnes Report.’ Rhodey looked like some sort of machine out there.”

Pepper snorted indelicately. “Your immediate reaction to being within a mile of Christine Everhart is wide-eyed panic. You’d have looked ridiculous.”

“I’d have looked better than Rhodey in my suit.” He turned to his friend. “And I’ll want that dry cleaned and pressed. I’ll tell you where to go. That dry cleaner you like is a savage that shouldn’t be allowed near good ta-” Tony’s wittering was cut off by the expedient method of a jacket to the face, Rhodey having balled it up and lobbed it at him.

Not gently.

“That’s Saville Row you’re wrinkling!”

Rhodey rolled his eyes and undid the collar on the too-tight shirt. He’d headed to his office the moment he’d gotten off set, more than ready to shed the uncomfortable suit and slip into his gym clothes only to discover that Pepper, in a moment of pure efficiency, had searched his office for every stitch of clothing and had it all sent out with an intern. An intern that wasn’t due to return for another twenty minutes.

Rhodey hadn’t bothered to even contemplate asking Fury to delay a meeting for his comfort.

He liked his balls where they were. Even if that was halfway back up into his abdomen thanks to an overly-familiar seam.

“In a death-match between you and Everhart, you’d never have come out on top,” said Rhodey.

Tony smirked. “You say that, but I came out on top of-”

“Tony no.” Pepper sounded like she was admonishing a dog rather than a person. She probably felt like it too.

Tony huffed and slouched in his seat like a child, the empty chair opposite him beginning to rock where he was rhythmically knocking it with his foot, and looked at the assembled crew.

“I know you, I know you, I know you – wait a minute, I don’t know you. Who are you?”

“Uhh, I’m Kate Bishop.” Kate frowned in confusion. “I work in SatCon. We’ve actually met before.”

Concern and fear flit over Tony’s face before he schooled his expression, and leaned closer to Rhodey. “Tell me I didn’t.” He gestured unsubtly to Kate. “I know there’s a decade there that I don’t really remember-”

“You didn’t.”
As Tony sat up, relieved, Rhodey mouthed ‘I’m sorry’ at Kate, the young woman merely raising her eyebrows in reply.

“You’re too young to be the Director over there. So who are you, and why are you here?” Tony demanded, ignoring Pepper’s touch to his arm and hissed, ‘Tony’.

“Uh, I don’t really know. I’m a nobody.”

“No you’re not,” Rhodey countered. “She’s in charge of tracking Barnes. She gets us our images and she’s the one that first noticed he was alive.”

“Oh, you’re the one monitoring the Martian in that broom closet.” Kate bristled at his mocking tone. Sure, she thought of her office as a shitty excuse for a closet but that didn’t mean someone else got to.

“You know, this face, this nose,” he turned to show Kate his profile, running one index finger from bridge to tip of his nose, “has made artists cry. Cry. And you almost ruined it, all zoomed in on your little crush.”

“Tony.” Pepper’s held a note of warning, neither knowing, nor caring, what the exchange was in regards to.

“What? It has!”

“Making your interior decorator cry, as well as her team, doesn’t count.”

“They were painting my office off-white. Off-white, Pepper!”

“And?” Kate prompted, mouthing a confused ‘what?’ at Rhodey when he shook his head violently.

“We agreed on cream. The perfect colour to off-set the paintings Pepper had me hang. Cream totally threw off the balance of the room. Hey, B-Man,” Tony flapped a hand in front of Bruce, “back me up here. You understand the importance of paint colour on mood, right?”

Bruce’s expression suggested that in fact, no, he didn’t. But he nodded vaguely nonetheless. “Sure, why not.”

“See,” Tony pointed to Bruce while smiling at Rhodey. “Bruce agrees. Because he’s a good friend.”

“That’s not what he-” Kate trailed off as Pepper shook her head. It wasn’t worth it.

“So not the Director? That’s what you’re saying.” Tony reversed to the last conversational off-ramp before the wheels fell off the car. “But you work for Rhodey. Or would you rather be working under Rhodey?”

“Shut it, Stark,” Rhodey ordered firmly.

“I just wanna be clear on why she’s here! I think it’s cute, Rhodey’s got a sidekick.”

“Sidekick this,” Rhodey flipped Tony off, much to the other man’s amusement.

“She’s here because she’s smart, she’s capable and she’s observant. Unlike you, she’s capable of listening and paying attention. I want her here. Deal with that.”

“Someone’s grumpy. Did you not have fun with Chatty Christine this morning?”
“Shut up.”

“Aww Pep, look he’s all annoyed because I questioned promoting a kid just because she was in the hot-seat when the images came in?”

“She gets a promotion, Tony, because she was smart enough to notice the differences in the site. Stop being a fucking dick and making the kid feel bad.”

“I’m not making her feel bad-” Tony glanced at where Kate was staring resolutely at her notepad, cheeks flushed a deep pink.

“Oh. Uh. I’m sorry.”

“Thanks,” Kate mumbled. She smiled at Banner when he leaned over to knock his shoulder into hers and offered her a grin. “He’s still all twisted up over it all. Just ignore him,” he whispered. “I do all the time.” She nodded and offered a weak grin of her own in response.

“Hey, Pep, you must love that Everhart is doing The Barnes Report,” Tony transferring his needling his partner.

“Tony, if I had a problem with every woman you’ve screwed and screwed over, I’d be unable to talk with most of the Eastern seaboard and half of the Western. Besides, I chose Everhart to do The Barnes Report.”

“You know,” Tony mused, resolutely ignoring Rhodey’s not-at-all-masked snigger, “I really should have focused more on middle-America. Given more love to the lovely corn-fed milk-maids of America. No chance now.” He sounded wistful as he stole Pepper’s mug, screwing up his face at the taste.

“I don’t know, Tony. You’re dangerously close to getting the freedom of opportunity.”

“You know I love you. I’m the lean, mean, space-surving machine that I am because of you.” He frowned. “Well, mostly down to you. Easily 10% entirely down to you.”

“Ten percent!” Pepper scoffed.

“An argument could be made for twelve.”

“Stark, you want to take a guess at your percentage of getting laid ever again?” Rhodey asked.

“Twelve percent?” Tony asked hopefully.

“Not even close,” parried Pepper.

“If you’re all done with the chit-chat, you think we can get started?” Fury asked as he entered the room, coat flapping behind him. He didn’t bother pulling out a chair, instead opting to perch on the edge of the table, dropping a couple files onto the wood.

“Rhodey, you did good on TV.”

“Oh, thanks.”

“Status on Barnes?”

Kate blinked at the rapid topic change: obviously the social niceties portion of the day was over.
Rhodey glanced to Kate and then down at his notes. “We still haven’t pictured him while he’s out of the Hab but from evidence of recent movement around the solar array and rovers suggest he’s alive and well. No change.”

“I’d think him digging up the RTG was a big change. You figure out what the fuck he wants the damn thing for?”

“We have a number of theories on that.”

Fury raised his eyebrows. “We’re a space agency, Rhodes, not a secret agency. Care to enlighten the rest of us?”

“I’m not comfortable guessing when we’re not-”

“Humour me.”

Rhodey sighed and flipped to the second page of his papers.

“Heat is our main theory. The RTG provides far more warmth than it does electricity. He knows that getting to Schiaparelli is his only shot, far as he’s aware. The second battery gets him double distance but with the heater sucking up a lot of that…” Rhodey shrugged. “It’s actually a pretty good idea.”

“Apart from the risk of radiation,” muttered Banner.

“Other theories?”

Rhodey looked reluctant to share, covering his work with his forearms when Tony tried to read it over his shoulder.

“I want to preface this that I don’t agre-”

“Spit it out.”

“There are some in the department that think he might want it to power light and heat in the pop-tent farms. They don’t have their own power source because they don’t need one. We never expected someone to want to put a light in there and the plants will need it. The RTG would be capable of powering devices Barnes creates to provide that.”

“Likelihood?”

“Slim to none,” Tony answered and Rhodey rolled his eyes. Kate frowned; it wasn’t her area but it sounded a somewhat plausible theory.

“Don’t be like that,” Tony admonished his friend. “That’s what you’ve got written right there!” Rhodey slapped away Tony’s hand when he tried to point to the sentence in question.

“Is he gonna kill himself with it?” Fury asked firmly, glowering unblinkingly at Stark until the man in question sat back in his seat. Rhodey gestured to Bruce. “You’re the resident radiation expert.”

Bruce took a deep breath. “Is there a chance? Yes. But,” he continued when even Fury looked concerned, “that chance is also slim to none.”

“What would raise that chance?” Fury asked.

“The RTG was buried. It’s possible that the weight around the RTG would have been enough to
damage it in the time it was buried. I’ve argued in the past that there was no need to bury them but was overruled.” Fury looked unrepentant. The safety protocol had been his call and it was one he’d make again.

“The other concern would be the sand. Years I’ve been asking for greater study into the thermophysical models of the layering of sand on Mars—”

“Now is not the time, Doctor.”

“It never is, is it Director? You asked me if it was dangerous – I’m trying to answer. I have to wonder why you even promoted me to this position when—”

“Doctor Banner!”

Banner’s hands clenched around his cup, the paper caving and the liquid within threatening to overflow as he breathed slowly out through his nose. Kate looked to Rhodey and then back to Banner, unsure what was happening and a little scared of what might happen. She laid her hand over Bruce’s, stabilizing the cup.

As though her touch had pulled him from a trance, Bruce started, eyes darting to his hand, his fingers instantly relaxing.

“Sorry,” he murmured.

“Banner,” said Fury, not unkindly but, “assuming best case scenario, is the RTG going to do him any harm?”

“So long as the cylinder isn’t damaged, no. Barnes might act like it sometimes, but he isn’t stupid and he rarely does anything without considering the consequences. I would assume he’d check the RTG over before placing it in the rover. Even if there is a crack in the outer casing, the pellets of plutonium are insulated.”

“And if the pellets break?” Pepper asked.

“Well, in that case, he’ll succeed in killing himself with it.”

“I’m gonna go ahead and hope that doesn’t happen,” Rhodey stated.

“Yeah,” Kate agreed on a whisper.

“Pepper, the public figure out that he dug it up yet?”

Pepper shook her head. “So far, not yet. It’s clear from the images that he drove away from the Hab but it’s probably that unless you knew what was there – as we do – it would be difficult to determine what he was doing. We got lucky – there was a gap of several minutes as we switched from one satellite to another which meant that the moments of it being lifted out of the hole are missing. As far as the images suggest, he drove away from the Hab, dug a hole and then drove back.” She rapped her pen against the tabletop. “It’s not foolproof though – anyone who goes back through all the images from Sol 1, or has a particularly good memory, may well be able to link the spot to where Rogers buried the RTG.”

“I want to know the moment that happens, if it does.”

Pepper nodded. “So far, my team has found no chatter about it even theorising that was what he was up to, and we don’t have to announce it. While the images are public, we don’t have an obligation to
supply them with our analysis of them. So far, we’re in the clear.”

“Keep it that way.”

Pepper’s ponytail bobbed as she nodded.

“And keep Christine’s people away from even the faintest hint of it. She’d just love to get a hold of that juicy story,” Tony added.

“Bruce, how is JPL’s plan going?”

“You mean the other thing I suggested and you rejected?”

Kate was mildly in awe. To look at, Banner seemed like he’d be happiest in a quiet library or working alone in a lab, and maybe that was where his temper stemmed from. Maybe all he wanted was to be alone with his work, to be left with the peace and quiet of things he understood. His work was quantifiable, people weren’t. Kate wondered just how much anger simmered beneath the surface for him to dare to speak to Fury that way.

“Doctor Banner,” Fury warned.

“Hey, you made me come here. I was fine in LA.” Kate reached out to move his cup out of harm’s reach. After a moment, she did the same with hers.

“Doctor Banner, the MDV.”

“We’ve been running simulations nearly 24/7,” Bruce answered. “We’re struggling with the take-off aspect of the plan. The engines that are in situ just aren’t strong enough to provide any form of lift, because what we’re asking of them just isn’t what it was designed for. The engines are there to slow the MDV’s descent further after the HIAD rips off. As such the MDV doesn’t so much fly or even land. It falls with grace.”

“Depending on the pilot,” Tony mumbled, making Kate chuckle.

“What about more fuel?” Pepper asked.

“Packing in more fuel isn’t enough,” answered Bruce. “The SFC of the engines currently used on the MDV’s just isn’t enough, no matter how much fuel we throw at them. Even if we could,” continued, “that extra weight – and it’d be a lot – would compromise the descent of the MDV. The only scenarios that have worked to provide enough thrust to lift the MDV, even a little, is modifying the engine itself. The engine has to be bigger, and we don’t have the time to come up with one.”

“So we scrap the plan?” Kate asked before darting her eyes to Fury. “Sorry, Sir, I didn’t-”

He waved her off.

“Do we scrap the plan, Doctor?”

“If we can’t up the fuel, we could make the MDV lighter.”

“I thought most of the weight came from the heat shields and hull?” Rhodey asked. “Can we remove those and still leave the MDV viable?”

“Yes and no.”

“Well that clears it all up,” Tony grumbled, crossing his arms and slumping in his seat. He’d wanted
Bruce to have all the answers. He liked to call the other man his brother in science. Rhodey was his best friend, and for a long time his only friend, but their specialties had always been very different. Tony’s mind, and he’d be the first to tell people this, worked in a way that few people could understand, fewer still keep up. Rhodey was intelligent, extremely so, but he had to work at it in a way that Tony never had. Bruce understood, though.

On the surface, they appeared quite different, but to anyone that bothered to look beneath that surface, the pair were far more alike than most would realise. Just as Tony was, Bruce too had been smarter than everyone around him, even as a child. He too had endured a childhood with an abusive alcoholic father, and lost both his parents at a young age. Where Tony had tried to live up to what he thought his father wanted of him, living a wild life that was a blur of booze, drugs, women, and revelry, Bruce had become withdrawn, suffering in silence when his father’s fist was replaced by a seemingly never-ending reel of schoolyard bullies. Both had struggled to make friends, even into adulthood, but where Tony had finally met Rhodey at university, it wasn’t until much later in his life that Bruce had met Betty Ross, a geneticist with whom he was paired during an experiment for the US Army.

When Bruce had been snapped up by JPL, Tony had, in usual privacy infringing manner, thoroughly researched the man, and practically annoyed him into friendship. He knew just how brilliant the other scientist was and he’d been sure, so very sure that Bruce would pull their feet from the fire, that he’d have deduced the answer and was ready to reveal it at the meeting. To learn that his friend was little closer was beyond disheartening.

Keeping the secret from the crew was weighing ever heavier on him. Tony needed a plan in place so he could finally get it off his chest.

“Removing the shields and reducing the hull thickness from the beginning would be lethal. They’re already as thin and light as they can be safely. Instead, our plan is to make the heat shields and outer hull detachable. Once the MDV lands at Ares 3, the crew ditches the unnecessary weight and the lighter MDV heads to Ares 4. My team is running the numbers.”

“Keep me posted.” Bruce nodded before checking his watch, wincing at what he saw, leading Kate to do the same: the meeting was already running over the expected thirty minutes.

Someone coughed and Kate jerked her head up to see Fury staring at her intently.

‘Oh God.’

“Welcome to the big leagues, Miss Bishop.”

“Sir?”

“There are several gaps of images during the day. What’s the largest gap?”

Kate had prepared for any eventuality she could think of, aware that a lowly stooge like her wouldn’t be asked to attend such a high-level meeting unless she was going to be expected to participate. She wasn’t a scientist, not the way most of the others at the table were, and so she knew it would likely revolve around her work as a nanny-cam. She’d spent the night before desperately scribbling notes on every topic that she thought she might be asked about, and even a few well outside her purview. The notebook in front of her was filled to bursting with notes, calculations and thoughts, just so she had the numbers on hand should anyone ask her a question.

She didn’t even have to flip to the relevant page for the answer to that question though. It was one she’d been expecting for weeks, even tried on her own recognisance to fix.
“Every 41 hours, we’ll have a 17 minute gap because of the orbits of the satellites we’re using.” They’d lucked out that that particular gap was what had masked the RTG retrieval.

“I like a person with an immediate answer. Makes my life easier.” Fury raised his eyebrows at Tony. “You might want to take notes on that, Mr Stark. I’m sure Ms Potts can teach you how to hold a pen.” Tony ripped off a sloppy salute, and as his hand came back down, he flipped Fury off. The movement was subtle but Kate was sure that the NASA Director had caught it.

“Miss Bishop, I want that gap down to 4 minutes.”

“Yes, Sir,” she replied, internally freaking out at how the hell she was going to manage that.

“Is it me now? It is isn’t it? You’ve asserted your dominance with the making me wait thing, but I get to go, right?” Tony smiled widely at NASA’s Director, but Kate noted it didn’t reach his eyes, and his hands were clenched around the edge of the table.

“You claimed you had an urgent question in your email.”

“I’m glad you finally asked. How long are we keeping this from the Ares 3 crew? They think Barnes is dead. That’s gonna be a huge drain on their morale.”

Fury turned to Rhodey, jerking his head at Tony.

“We talked about this, Tony-”

“No,” Tony refuted firmly. “No, you guys talked and I disagreed. They think they lost their crewmate. In case you haven’t noticed, or didn’t see their fucking eulogies – they’re devastated, especially Captain America.”

“Of course I fucking noticed, Stark. Why do you think we’re here? Why do you think I’ve let JPL go forward with a plan I don’t think will ever be succeed?” At Kate’s side, Bruce bristled. “I noticed, Stark. I don’t need a lecture in morality from you. But unlike you, I’ve consulted with Garner,” Tony scoffed at the mention of the shrink, his own history with the profession sketchy at best, “and his judgement is that it would be more damaging to the crew to know Barnes is alive without also learning that there is a solid plan of action.”

“You think Commander Rogers would feel better that he abandoned a man on Mars?” Rhodey added. “You think that’ll make him feel better, Tony?”

Tony poked a finger into Rhodey’s chest. “They deserve to know. Do you think so little of them that you think they can’t handle it? That they’ll crash into the first thing they come across? Or do you think Cap can’t take knowing the man he lov – OW! Pep, what the hell?!” Pepper smiled beatifically at her boyfriend as though she hadn’t just kicked the toe, the pointy toe, of her fashionable pumps into his shin. Her gaze flashed to Fury and then at Kate, her meaning clear.

“Come on, everyone know-”

“It’s a matter of them getting home safely, Stark. And we need to give them every opportunity to do that,” Rhodey ran over the end of his sentence.

The expression on Tony’s face was a confused, tangled, and tortured mess.

“I’m the one that makes that call. They’re my crew.”

“This isn’t about your ego,” Fury responded, tone hard and cold. “This is about what’s best for
“I want it on record, I want it written the fuck down that I, the man billed around the globe as ‘Tony Heartless Stark’ am the only one that cares about the mental and emotional health of the people up on that ship.”

“We care, Tony,” Rhodey argued, jaw clenching when Tony snorted in disdain. “We care so much we don’t want to put them through extra pain until we can tell them we have a definite plan, not just an idea.”

“Change the fucking song,” Tony yelled. Kate felt Bruce at her left flinching, his chair rolling back a little from the table. Rhodey’s eyes slid closed as he rubbed his fingers along his forehead as though trying to soothe away a headache that had started the moment he’d learned of ‘The Barnes Report’.

Fury said nothing, unblinking, unmoving, undeterred.

“Fuck’s sake,” Tony growled as he grabbed up his Montblanc to scratch out items 1-5 on the notes in front of him, page after page of points to raise in the meeting, each and every one of them a variant of the need to talk to the crew, to fill them in on the situation, to ease their grief and heartache. Each bullet point was more forceful and profane than the last as Tony had exponentially lost his temper.

He pressed the pen down so hard he tore through the page and then through the ones underneath, the paper ripping away from the nib as he tried to dig through the table itself. For a split second, less than the time of a heartbeat, Tony even considered stabbing it into Fury’s other eye.

He knew how the other man saw him; self-obsessed, narcissistic, selfish and, morally bankrupt. He supposed in a way he couldn’t blame Fury for that all that much; a decade ago he’d been all those things and more. Morals, ethics, the law…they’d all meant nothing to him. Money solved all problems, and he had more than enough of both.

Then his whole world had shifted, the sky had fallen and when he’d pulled himself out of the wreckage he’d made of his life, he’d been atoning ever since.

But the old Tony Stark, the one that spent decades finding that he could in fact dig further down after hitting rock bottom, he had left a lasting impression. Tony couldn’t really blame strangers for thinking the worst of him – he’d given them countless reasons to – but Fury? A man who saw him day after day after day…could he not see how hard Tony had worked to better himself? Tony had hoped that one day he’d reach the end of people assuming the worst of him.

It wasn’t today, apparently.

“Tony, stop.”

Pepper’s hand was gentle as it rested on his wrist, stilling his hand, the crimson of her nail varnish stark against his unusually pale skin as she relieved him of the pen. He took in the mess he’d made, the scraps of paper that littered the table top, the hole gouged in the legal pad. When he flipped the pad over, it was clear he’d been seconds away from cutting through the cardboard backing.

“Huh.”

“Stark, the decision is made,” Fury said, ignoring his behaviour. “I know you think of them as your fri-”

“They are my friends. Out of everyone in this room, I know them the best,” Tony argued. “I’m the
one that decides what’s best for the crew. Out of everyone in this fucking room, it seems like I’m the only one with their best interest in mind. I’m getting the feeling I’m the only one that does. Banner, come on, you gotta have an opinion on this,” Tony asked Bruce.

Bruce shrugged helplessly. “It’s not my call, Tony. I deal with machines and computers, not beating hearts. I don’t have the training for that.”

“Yeah, but you got to have an opinion.”

“I can’t say.”

“Bullshit, Banner. C’mon, don’t wimp out on me. Gut answer, if it were you, if you thought you’d done something that’d resulted in Betty dying,” Tony might have missed how Bruce flinched at that, the way his shoulders tensed and his breathing stuttered, but Kate did not, “and we all knew she didn’t, wouldn’t you want to know? Wouldn’t you want to help the rescue effort any way you could? Would you ever trust us again when you learned the truth and discovered we’d kept it from you?”

“Tony, that’s not fair,” Pepper said softly. “The circumstances are extraordinary in this situation.”

Tony dropped Bruce’s gaze and rounded on his partner instead.

“I thought you wanted them to know, I thought when we got the images back that you were the first one to want to talk with the crew!”

Pepper rubbed her forehead. “I did.”

“Then-”

“But Nick is right, Tony. To learn that they could have potentially saved him…if you think Steve is suffering now, imagine what it’d be like for him to think that Barnes may even have been awake to see the MAV take-off. Imagine what it’d be like for him to think that Bucky might even have been screaming for them to wait, to come back, to not leave him. And then imagine, hearing us say ‘we don’t yet have a plan in place to help him’. They’re smart. They’re some of the smartest people in the world. They’ll know the odds, know the risks. They’ll know if we can’t comprise a plan, he will still die. And he’ll suffer as he does it.” Peppers breath hitched as she blinked away the tears building in her eyes.

“To tell them know would be cruel, Tony. I know it’s hurting you, I see it,” Pepper tightened her grip on her partner’s hand, “but it would destroy them. Trust your team, Tony. Trust Bruce’s and Rhodey’s. They’re the best in the world. They’ll come up with something and then…then you can tell them.”

“Mr Stark.” Half of the room shrank away from the expression on the Director’s scarred face. Between the eye-patch, the all-black ensemble like he was reminding people that he was always ready to attend their funeral, and the floor-length leather duster, Fury was an intimidating man on a good day. Right that second it was all too easy to recall that he’d been a three star General in the Army.

“I don’t like it any more than you do, but until we have a plan in place, telling them will only make the situation worse. Once we have a plan, we’ll revisit telling them.”

“I get it, I’m surrounded by military men willing to sacrifice.”

"Enough, Tony." Pepper's tone was ice, her blue eyes equally cold, still glossy with unshed tears.
Kate had heard the rumours – everyone practically lived at the site now, she certainly did, and it was like a small town. Everyone knew everyone else’s shit, and the tension in the Potts-Stark union was hot gossip in the lounges. The decision on when to tell the crew wasn’t just hurting them on a professional level, it was taking a toll on their relationship.

There was a cracking sound and Tony cocked his head, gaze roving over Pepper’s face before glancing down to her hand. Where what was left of his pen had snapped in half.

“You don’t always know best, Stark.”

“I get it.” Tony threw his hands up in resignation and acquiesced with ill grace. “Fine. Fine! But not a second longer. If I think you’re stalling, if you fuck around, I am heading down to Control and once that message is sent, you won’t be able to do a damn fucking thing about it.”

Kate turned to Fury, terrified to see the fallout of Stark’s ultimatum, but also darkly intrigued as to how the man was going to respond. To her surprise, he merely nodded. She’d expected something more like her father, a man not used to people standing up to him. There was no yelling match, no banging of fists on the table, no threats of violence.

So very different to the house she’d grown up in.

It was nice.

_Tense as hell_, but nice.

With a tight smile, any pleasure in partially getting his way carefully hidden, Tony gestured to Bruce.

“Banner, get on your plan, big man.” Tony’s voice was tight and hard, his words clipped. “Gotta get a way to get that boy home.” Bruce’s expression told Tony that the man would like nothing more. Especially if it got him back to LA and away from Tony.

He recoiled when Tony grabbed something out of his jacket pocket and slid it towards him.

“Peace offering. Or whatever,” Tony mumbled.

“Blueberries?” Bruce eyed the bag as though it might poison him, but took some of the offered fruit before nudging the bag back across the table.

“They’re good for you. Brain food or something. Speaking of, look alive Kate.” It was all the warning Kate got to catch the blueberries Tony pelted at her rather than passing her the bag.

“Ah!”

“Are you a ninja?” Tony asked, in awe of how fast Kate’s reflexes were, some of the tightness in his shoulders easing at the amusement of the squashed berries now held in Kate’s grasp.

“What the futz??”

“Good for you, full of nutrients. You’re a growing girl. Lots of peeping to do, gotta keep your strength up getting those satellites into position.”

“Uh, thanks.” Kate slurped the mess from her palm before gratefully taking a Kleenex proffered by the ever-prepared Pepper, cleaning up the remains of the sticky goo as best she could.

“You think we could continue?” Fury asked, accepting the bag when it was slid across the table to
him, shaking out a handful and pocketing the rest, lips twitching at Tony’s moue of disappointment.

“JPL is on the rescue mission. So we gotta keep him alive for four years. Thoughts? Rhodey?”

Rhodey flipped to the relevant file his teams had compiled.

“We’re pretty sure that the Hab has the longevity. Especially with a mechanical engineer inside to fix things as they go wrong. The far bigger concern is food. He will starve to death in a year if we don’t find a way to send him supplies. No way around it.”

“What about landing the Ares 4 pre-supply to him?”

“That’s the plan at the moment. But there’s a problem; that probe was not due to launch for another year. That’s simply not soon enough, but it’s not ready yet to go sooner. JPL hasn’t started on it yet.” Bruce grimaced; it wasn’t his fault, but he felt responsible. He also suspected that the delay would incorrectly be attributed to the insistence upon continuing to try to perfect the modified MDV approach. The teams for each were completely separate. The probe hadn’t been started because, as they’d not expected to require the necessary equipment, it’d been removed for cleaning and aligning, a process that normally took months. They’d been able to retrieve all of the completed and yet to be started machinery and had begun the set-up procedures, but JPL had no choice but to wait on the apparatus that had already been broken down.

There was no way to hurry that procedure along. Until it was complete, the probe could not be assembled, but the team was carrying out pre-preparation procedures. As soon as the mechanisms were back in place, the team wouldn’t waste a second getting to work.

“At the best of times, it takes 8 months to get a probe up to Mars, but the position of the Earth and Mars right now…not the best of times.”

“Mercury is in retrograde…” Tony whispered.

“This isn’t a game! Show some respect!” Hissed Rhodey, only barely resisting the urge to slam his find into the table-top.

“Getting angry isn’t going to help, James.” Bruce shook his head at Rhodey, sighing at Tony’s inappropriate asides. They both knew that it was the Flight Director’s stress response, venting the built up pressure little by little by acting out, but sometimes...

Tony looked penitent and slumped down in his seat, gesturing at Bruce to continue.

“Presuming he’s rationing, he’s got enough up there for 350 days. That gives us three months to get a probe ready to launch. That’s...that’s pretty horrible. Making a presupply takes 6 months,” Bruce said. “We’re set up to pipeline a number at a time, not make one in next to no time.”

“Can it be done, Doctor Banner?”

“We’ll find a way.”

“We’re asking a lot.”

“We’ll find a way,” repeated Bruce. But the OT alone will be a problem.”

“Do it. I’ll find you the money.”

“There’s also the matter of the booster,” Rhodey continued, flipping to another page of his notes.
The only way to get to Mars right now is a fucking tonne of fuel. We only have one booster capable of that; the Delta IX that’s currently of the pad right now for *Insight* Saturn probe.”

“And?”

“And we’re gonna need to steal it. ULA told me they can’t make another booster in time.”

*Insight* 3 team will be pissed, but they’ll give me the fucking booster. We can delay their mission if JPL gets the payload complete.” Anyone looking at Fury right then didn’t doubt his ability to get what he wanted.

Bruce removed his glasses and rubbed tiredly at his eyes.

“We’ll do everything we can.”

“No pressure, Doctor, but he’ll starve if you don’t.”

“No pressure. Sure.” Putting his glasses back on, Bruce began to gather his things, turning bloodshot eyes to Fury.

“Can I go?” Banner asked.

“Of course Doctor, you can return to your lab.” Banner shot out his chair as though rocket propelled.

“Say hi to Betty for me!” Tony hollered as Bruce left, the man throwing a sloppy wave over his shoulder.

Bruce’s departure seemed to flip a switch, the meeting winding down within a couple minutes, everyone’s mind already on their next tasks.

“Oh, and Ms Potts,” Fury called out as he reached the door, “you needn’t have worried about what Stark was going to say; everyone does know about Barnes and Noble.”

Kate grinned; if she’d found Tony intimidating, then Fury scared the living shit out of her. Nobody would believe her that the stoic Director with the world’s greatest resting murder face actually had a sense of humour.

“I call ’em Starbucks myself,” Tony offered with a delighted grin, waggling his eyebrows as he tapped the immense Starbucks cup in front of him. Kate was impressed – she didn’t even know that the cups came in that size, the container easily 50% bigger than a Trenti. She idly wondered what ‘bucket’ was in Italian. Either Stark had had it custom made or it was yet another perk of being a billionaire. She wondered who she’d have to bribe to get a bucket cup of her very own. Possibly Tony. Possibly with a fruit basket.

“Uh, over in SatCon, they’re Stucky,” Kate put forth, looking shocked when the whole room turned to look at her as though they’d forgotten she was there.

“Stucky?” Tony repeated. “It’s okay I guess. Starbucks is cooler.”

“I’m with Kate,” Pepper voted. Tony’s indignant response was interrupted by a knock on the door, followed immediately by Happy escorting Bethany Cabe holding a phone.

“Ms Potts? There’s a call you really need to take.”

It wasn’t Bethany’s job to act as Pepper’s assistant, she already had two frighteningly efficient ones,
but in the time since the survival announcement had been made, Bethany had been assigned to the over-taxed media team. More often than not that involved keeping the Press corps where it was supposed to be, a role in which she was extraordinarily proficient, Bethany being one of the few people in the agency who could take on Natasha and live to talk about it after, but she had proven herself over the weeks to be more than willing, and able, to hot-desk as required, anything to ease the strain.

Pepper found the phone thrust under her nose, a faintly wild look in Bethany’s eyes, the woman clearly eager to pass the buck. Bethany was one of the most competent people Pepper had ever met, more than capable with dealing with a phonecall, even one from an irate or insistent caller. As a result of her wariness, Pepper eyed the phone like it was going to explode.

“Her name is Rio Morales and she won’t take ‘no’ for an answer.”

“Rio Mor – Miles’ mom?”

“Apparently Ganke, whoever he is, isn’t that good at secret keeping,” Bethany answered with a shrug.

Pepper frowned at Tony, curling a hand protectively around the handset to cover the mic.

“You said you were going to get him home!”

“I did!” He grimaced as Pepper raised her eyebrows. Kate, avidly watching the show which was far more entertaining than her usual Mars Movie Hour, was impressed. She’d only had to deal with Tony twice and had felt overwhelmed and intimidated both times. And a little like she wanted to punch him in the nose, but she was pretty sure the feeling she had was intimidation.

Mostly.

But the Media Director showed only exasperation, though it was softened by a hint of a fondness curling her lips. It was impressive how fast Stark caved under Pepper’s disapproving, and disappointed, glower.

“Okay, I am. Honest. But the kid made a great case yesterday, and this’ll bring up his whole grade, and really, Pep, I would have thought that you, of all people, would support a young man as he strives for a better grade, to give himself the best possible start in l-”

“Where did he even stay the night?” Pepper hissed. “He’s a minor. With all the press attention we’re getting do you really want to be accused of abduction?”

Tony shifted in his seat, eyes darting to the two doors out of the conference room, casing the exits, likely calculating his odds of reaching either one before being tackled to the floor by Happy on Pepper’s orders. It was common knowledge in the building that while Tony had brought Happy with him from Stark Industries, setting the bodyguard up as a unit leader of the NASA security team, the guard was devoted to Pepper.

Bethany’s hand dropped onto Tony’s shoulder and he slumped in his seat.

“I set him up in a hotel.” He glanced to Pepper. “A nice one, I swear. I got him a suite! I even had the bellboy empty the mini-bar so he had no access to alcohol.”

“You know so much about it, you talk to her!” Pepper thrust the phone into Tony’s hand, or at least tried to, her partner recoiling as theatrically as if she’d tried to drop a hot coal in his hand.
“Oh no, I have spoken to enough irate moms to know no good can come from that, and if I’m not willing to talk to a hot woman’s mom, I certainly am not talking to a boy’s mom. Unles…” He turned to Bethany. “Did she sound hot? Is this a hot mom situation, because then I might reconsider.”

“She sounded angry.” Bethany glanced towards Pepper, hand tightening on Tony’s shoulder, the man squirming in her hold. “But maybe not as angry as her.”

Turning to where Pepper sat, Tony found himself with a faceful of phone and when Pepper let it go, reflexively caught it. A tinny voice emanated from the handset.

“Hello?! Ganke told me what my son did. I want to talk to someone in charge, immediately.”
I Drove All Night To Get To You

Chapter Summary

It isn’t just stowaway high-schoolers that the team on Earth is having to deal with. There’s the man with the ego to rival Stark, the reporter scenting blood in the water, and an astronaut that seems determined to give Rhodey a heart-attack by leaving the safety of the Hab years too early.

There was a peace to the world, or at least Rhodey’s office, at 5am. There were no interns roaming the halls, the night shift choosing instead to crash out in the lounge until called upon when they weren’t being worked into an early grave. All but the most dedicated reporters – and those whose publication had a shitty per diem – had headed home or to their hotels. Most likely after bribing an intern or two to keep them in the loop. The lobby was empty, and nobody wanted Rhodey’s attention for at least another couple hours.

It was close to Heaven.

If Heaven involved cold coffee, which normally Rhodey’s didn’t.

As he did numerous times a day, especially in the last couple months, Rhodey thanked the Air Force for training him to drink brown swill and call it coffee as well as the ability to drink it by the gallon regardless of time of night and still get to sleep for a whole four hours a night.

Which he wasn’t going to get tonight.

Fifteen years before the worst one of his life, and before Tony had realised that he was worth so much more than a bank balance and his father’s reputation, Rhodey had travelled with Tony to Brazil back when he’d been the liaison between Stark Industries and NASA. Tony had, in great Stark tradition, demanded the best – or at least most expensive – of everything.

For three glorious weeks, Rhodey had enjoyed the very best the country had to offer but nothing came close to the coffee. It’d been rich and creamy and, most importantly, strong. If it weren’t for the fact he occasionally needed to sleep, and the muscle ticking beneath his eye was annoying, Rhodey would have drunk it 24/7.

It was a good thing that he’d consumed enough of it over those three weeks to last his lifetime because office coffee was shit. Burnt, rough, acidic and those were its best qualities. Tony had, when he’d taken his job, bought Rhodey his own stupidly expensive coffee machine that was worth more than luxury car, and provided him with a new bag of beans every week, the coffee coming from around the world.

It wasn’t the same.

More often than not, Rhodey defaulted to the ancient Bunn in the employee lounge. He was also fairly sure he was the only one to actually clean the fucking thing. But it was faster, and easier, than twiddling the four thousand knobs on the machine Tony had got him, wonderful though it was.

Between shift changes and fund allocations and looting of projects and juggling other projects...he
needed the caffeine to pull all those stunts. He’d been in dogfights with less danger. But far worse than the political wrangling that he was pretty sure was turning his hair grey, was dealing with Justin Hammer.

More specifically, dealing with Hammer’s ego.

Over the years, Rhodey had perfected dealing with Tony’s inflated ego, but where his friend not only had the genius and ingenuity to back up his claims, he’d also developed a conscience, the ability to listen to other people – even if he didn’t always follow through on their requests – and had, to a degree, humbled.

It’s possible to those that didn’t know him that Tony appeared to be just as bombastic and over the top as ever, but those that called him friend knew better.

Hammer on the other hand…Hammer was a bloviating narcissist that Rhodey wanted to punch in the face most of the time.

Right now, he wanted to knee him in the balls.

Reaching for his coffee, he read over the email that he, Tony, Pepper, Phil, Bruce, Maria, and Fury had received.

Hey, pals.

How you doin’?

Don’t bother answering, I know how you’re doing. The world knows how you’re doing.

Badly.

Some might even say that you’re all complete failures at every aspect of your jobs.

Of course, I would never be one of those people. I know you guys, I know you’re trying as hard as you can.

There’s the problem.

It’s not your fault: not everyone can be me.

We all know what’s at stake – the last few months have continuously demonstrated the systemic failures you, Tony, NASA in general have rooted deep within you. You can’t afford to refuse my help anymore. It’s blatantly obvious that your downtown approaches to rescue aren’t going to cut it. You’ve spent weeks selling the public a pup and you know it. Sure, Banner’s a nice guy – most of the time – but come on, we all know he doesn’t have the stones for this.

NASA is supposed to be the agency of untold possibilities, not untold fuck-ups.

Now, I could make you beg, but tempting as it’d be to bring Stark to his knees, I’m capable of being the bigger man – and believe me, I have it on good authority I am ‘bigger’ - I’m offering my services, and that of Hammer Industries.

Specifically, the vibranium alloy I’ve been perfecting. The one that’d make your pedestrian rescue plan a reality. It’s a creation of pure genius. It’s fully adaptable, can be integrated to existing systems, and makes anything from Stark Industries look like a kid’s Meccano set. If it were any smarter, it’d write a book, a book that would make Ulysses look like it was written in crayon. It
would read it to you. This is my Eiffel Tower. This is my Rachmaninoff's Third. My Pieta. It's completely elegant, it's bafflingly beautiful, and it's capable of making your pathetic plan perfectly viable.

You're welcome.

But I've changed my mind. I do want a little something from you. Anthony Stark, on his knees, begging me to help him. Admitting that he's not the God he wants us all to believe him to be. Grovelling is the word I think is most fitting.

There's blood in the water, gentlemen. Do you really think you can refuse my lifeboat? I can save Barnes. With or without you. Question is, do you want the world to know you've failed?

J. Hammer.

Rhodey had bristled at the implication that NASA needed Hammer’s suggestion to opt to use vibranium. Engineers within NASA had already considered it and rejected it. It was light, it was strong, it could survive the intense heat of take-off and re-entry without the need of heat shielding, and was virtually indestructible.

It was, in short, perfect.

But NASA had already made an official request to Wakanda that had been denied. The amount of vibranium that would be necessary to modify the MDV design to make it light and strong enough to carry out its new mission would be considerable. While King T’Challa had, since ascending to the throne, worked tirelessly to end his country’s isolation from the rest of the world, he remained extremely strict with the sale of vibranium. Small quantities were one thing. Tonnes of it?

Never happen.

Even if T’Challa would sell them the necessary amount, it would have been prohibitively expensive. Vibranium held a market value of $10,000 per gram. At over nine trillion dollars a ton, it was impossible.

Fury had, of course, delegated responding to the steaming pile of bullshit to Rhodey. Tony had been oscillating between apoplectic and hysterical laughter. Unable to speak through his amusement, Tony had shooed Rhodey away from his desk, logged into his own computer remotely and pulled up a video. From the digital stamps running at the bottom, the video was revealed to be security film from within one of the many research facilities for Hammer Industries. He didn’t know how Tony had gotten hold of it, and he didn’t want to – plausible deniability was a beautiful thing when friends with Tony – but that didn’t stop him crouching down to watch as Hammer and a couple other techs brought out a sheet of metal.

“The vibranium alloy,” Tony had stated.

The video had audio but hadn’t picked up the dialogue between Hammer and his employees, but from the wild gesticulating from Justin, he wasn’t happy. The sheet was hooked up against the wall in front of a mannequin, Hammer retreating behind a shield at the other end of the lab, an anti-tank gun lowering from God alone knew.

The audio picked up the firing of the shell. The vibranium should have emerged from the smoke unscathed, absorbing the kinetic energy and storing it within the bonds between the molecules. The more energy the metal absorbed, the stronger it became.
But that wasn’t what happened.

The metal, mannequin, and the wall behind it were obliterated, revealing a car park outside, a car door slamming to the ground, the rest of the mangled vehicle on fire.

“Hammer is years, decades, away from perfecting a vibranium alloy.” Tony had pointed to the screen at the remains of the sheet of metal. “That? That’s the entirety of his supply. Myron MacLain is the only guy outside of Wakanda to every successfully combine vibranium with another metal. And Hammer? Is no MacLain.”

“You know as well as I do that King T’Challa keeps that stuff under wraps. SI once requested some for testing, offered five times its value. He refused the purchase. The only way to get Vibranium without his permission is to steal it, and even I’m not that crazy.”

Rhodey knew that to be true. Those caught stealing from within the borders of Wakanda were never heard from again. There’d been wild rumours for generations about a black panther that defended the country, keeping those that would try to conquer or tame the land, or take it from its people, out.

Or dead.

Whichever came first.

Those unwise enough to try to take Wakanda’s greatest resource?

Suicidal.

Which meant Hammer no doubt had attempted that route; when making a request to Wakanda, an individual or company had to explain what they wanted it for. King T’Challa examined the requests himself. He’d have been more than aware of Hammer Industries and its history.

The request would never have been approved.

Which meant someone had gotten into Wakanda and stolen it.

No wonder Tony was so amused; Hammer was a dead man walking.

A knock at his door pulled his attention away, like a gift from a benevolent God. He didn’t take this position for this type of shit.

“Hey, Kate.” He waved her in and gestured to the couch. “Just push the blanket out of the way.” Grateful, Rhodey pushed away from his desk. Hammer could wait. “I didn’t Google myself.”

“Oh?” Rather than move the blanket, the engineer wrapped it around her shoulders burrowing down like she wanted to hibernate. She looked exhausted. The dark purple circles under Kate’s eyes almost matched the colour of her baggy sweater, her skin sallow and her eyes were bloodshot. The girl looked like she needed a solid week’s sleep. She wasn’t going to get it until they got Barnes off that fucking planet. Rhodey knew her sleeping pattern was all kinds of fucked up – she slept when Barnes did, like a mom with a new baby, and with Mars day being forty minutes longer, she’d been working strange hours, only handing off to one of her colleagues every few days to go home, see some sunlight, sleep in a bed, take a shower that didn’t involve a locker room full of other people, and generally pretend to be a human being that had an actual life.

Mostly, she tried not to drown in the bathtub by falling asleep in it, but sometimes she even saw her bed which was almost too exciting for her to cope with.
Rhodey knew all too well there was only so long a person could maintain such a disordered life, but Kate was young, stubborn, and all kinds of determined.

She’d stay the course.

Besides, there was almost nothing that couldn’t be achieved with five gallons of coffee in you.

“Yeah, didn’t have to. By the time I got back to my office, my mom had left forty-three messages to tell me all about what she’d found online about me.”

“Any of it good?”

Rhodey smiled. “Depends on what you consider to be good.” Kate huffed out a tired laugh. “She did manage to twist something about wanting me to father their child,” and it had been a hell of a lot more crude than that which had been mortifying to hear come from the mouth of his 84 year old mother, “into joy at finally becoming a grandmother.”

“Moms,” Kate mumbled with a giggle, slumping sideways, head coming to rest against the arm of the couch.

“Yours Google you?” Rhodey asked quietly, wondering who was more likely, of his office neighbours, to have another blanket.

“Nope.” Kate’s voice was little more than a whisper as she slipped closer towards sleep, sounding more like a small child than an accomplished engineer.

Rhodey waited for her to continue, but all that came was a soft snore.

As quietly and gently as he could, Rhodey lifted Kate’s feet up onto the couch, wincing when she snuffled and wriggled around, not meaning to wake her, but she was gone again a second later. He draped his coat over her legs, hit the light on his way out and headed to her office.

Watching blurry images of the Ares 3 site all night was far preferable to trying to reply to Hammer.

“Am I bothering you?” It was like an action replay of two-nights previous with Kate stepping into his office. She was still in the purple hoodie, but her hair was clean and her eyes weren’t the same bloodshot mess. She still needed more sleep, but he’d only been able to offer her that one night of uninterrupted slumber. He’d been halfway to a migraine from staring at her screens all night by the time he’d handed Kate’s shift over to an excited young woman who had begun talking to him at roughly the speed of light, and Rhodey’s ropey high school Spanish, which was for shit as it was, hadn’t stood a chance. It wasn’t until she’d calmed down a little at meeting ‘my hero, like, my absolute hero,’ that she seemed to notice she was speaking Spanish and switched over to English, that Rhodey had been able to take his leave and gotten back to his office, Kate was gone. The blanket had been folded on the arm of the couch, his coat was back on the hook on the door and a note, reading merely ‘thanks’, was taped to his keyboard.

“No,” Rhodey gestured to the chair and sat back from his computer. “What’s up? My couch is booked for the night.” He pointed to where Miles Morales, complete with permission from both his mother and his school to remain – though Rhodey fully suspected the boy was going to end up spending the next twenty years of his life fending off accusations from his grandmother about being on drugs, as well as being reminded that the new grey hairs his mother possessed were entirely his
fault – was crashed out. The young man had bored of his hotel once it’d become clear that Ganke’s parents would not be allowing him to join Miles’ little adventure, and more often than not could be found wandering the halls at night, getting under foot in Tony’s office, working out the perfect way to con the lounge vending machine out of snacks and, more oddly to the majority of people, hanging out with the legal team that had smoothed the way for him to stay without threats of being sued by Miles’ all-too-terrifying grandmother.

Rhodey had no idea what Murdock and Morales found to talk about, but they spent a phenomenal amount of time in the gym together, and more than once Foggy had been complaining about ‘parkour ninjas’.

Rhodey wasn’t sure if he really wanted to know.

So long as he wasn’t being sued, he no longer cared.

“You reply to Hammer yet?” Kate asked as she dropped into the chair, kicking her feet up onto the desk, ignoring Rhodey’s exasperated expression. It wasn’t only Miles that had been spending too much time with Tony, then.

It was amazing how much more relaxed and comfortable the young engineer had gotten around him.

Rhodey wasn’t entirely sure he should encourage it, but he was too tired to give a shit.

“You read my email?”

“Noooooo,” answered Kate, shifting her legs to prop her feet against the edge of the desk to hug her knees to her chest. “If it’s going to get me fired, then I absolutely did not read your email.”

“Convincing.”

“I also definitely didn’t draft a reply.”

“What?” Reading his email was one thing. Writing a reply was another.

“Kat-”

“I didn’t send it.” Kate threw up her hands, only the tips of her fingers visible from how she had the sleeves of her hoodie pulled over hands. “I swear. But I thought you’d get a kick out of it.”

Rhodey stared at her in silence.

Kate dropped his gaze and her feet, wiping idly at the smudges her heavy combat boots left behind. “Sorry, Director Rhodes.”

Reaching for the mouse, Rhodey clicked into his drafts folder, finding Kate’s reply with ease, reading it out.

“Fuck you, we’ll save him ourselves.” Kate’s eyes flicked back up to him and she grinned.

“Seemed to the point.”

‘Accurate too.’

“Don’t do it again.”

“Won’t,” came the answer, but Kate was still smiling.
“You came over to ask about Hammer?”

“What? Oh, no. Barnes is on the move. I don’t think it’s another test-drive.”

That got Rhodey’s attention. They’d all gotten used to Barnes’ little expeditions, the man camping out in the rover more than once, Kate determining he was testing his equipment, but he’d always returned to the Hab for more work.

“Why not?”

“He drove straight from the Hab for two hours, stopped for a little over ten minutes and then drove for another two hours.” On Barnes’ previous tests, he’d not strayed so far from the Hab, choosing instead to drive in a spiral pattern out from his base, staying close in case of a problem. If he was heading straight…

Barnes had a goal in mind.

Rhodey just prayed it wasn’t Schiaparelli.

“You think the EVA was to change the batteries over?”

“Yes, Director.”

“Am I going to have to tell you to call me James, again?”

“Probably,” Kate smiled. She might have grown more confident after the last few weeks and less intimidated by her superiors – she’d walked in on Rhodey asleep and drooling into his files more than once and she’d gotten Tony’s number pretty quick - but calling Doctor Rhodes by his first name just seemed wrong.

“You’re sure it’s not a longer test? Overnight, perhaps.”

Kate shook her head; she’d spent weeks now with nothing to do but analyse what Barnes was up to, with more than a few conversations with Garner to get a better feel of the guy, and she was sure of her deduction. “He’d stay close to the Hab for an overnight and he’s already 76km away.”

“Shit!” Rhodey barked. Miles snuffled in his sleep but didn’t wake.

“I know.”

“He’s fucked. He doesn’t have a chance in hell.” If he was heading to the Ares 4 site, Barnes really didn’t; a joint team of engineers and specialists from JPL and Houston had run countless scenarios about what he’d need and what he could fit in one rover. There was simply no way they’d found of getting the Water Reclaimer, Atmospheric Regulator, the necessary food, tools, supplies, clothing, and anything else the guy could need for a trip likely to take two months just to get there. The only way Bucky would survive the trip was to also return to the Hab after making contact with home via the MAV.

Assuming he’d get there at all.

“Schiaparelli is th-”

“He’s not going to Ares 4,” blurted Kate.

That got Rhodey’s attention.
“No?”

She shrugged and bit her lip. “At least I don’t think he is.”

“Where do you think he’s going?” Rhodey leaned forward, resting his arms against the desk.

“I don’t know.” Kate sighed. “If, she smacked the heel of one hand into the palm of the other, “he’s going to Schiaparelli he’s going a really weird-ass way about it.”

“Werid-ass?” Rhodey echoed faintly.

“Schiaparelli is southeast, but he headed out South-southwest and he’s not deviated from that course since he started.”

Rhodey frowned, rubbing his chin and contemplating Barnes’ behaviour. “What’s he doing now?”

“He’s stopped and when I left he was setting out the solar panels that he removed from the array, so I’m thinking he’s recharging. Last time that took 12 hours so he’s not going anywhere for a while. I was gonna head home.” She looked so hopeful. “Y’know, if that’s okay? I need some sleep and a shower.” She looked concerned for a second. “I hope I didn’t forget to pay the water bill. That would suck. I have the best shower. Like, my apartment is a dump but that shower is awesome and if I can-”

“Go. Get out. Be someone else’s problem.” She deserved the time. Needed it too by the looks of how excited she was at the prospect of twelve whole hours to herself.

“What about-”

“Go. Get some sleep. I’ll call America in for the shift, if she’s free and if not an intern can keep an eye on him. Hell, Miles can earn his keep. Number of candy bars he steals outta the vending machine, he owes us some hours. We’ll see what he does tomorrow. For all we know, he’ll head back to the Hab.”

“Maybe,” Kate conceded, though her tone suggested she didn’t believe it for a second.

Neither did Rhodey.

“Want me to take him off your hands?” Kate asked, thumbing over her shoulder at the slumbering Miles who, as though cued, let out a snore that would wake the dead.

“Yes.”

Rhodey barely noticed the commotion that accompanied Kate waking the sleeping teen and hustling him out the door, both of them mumbling their goodbyes to the Director.

Where the fuck was Barnes going?

“Welcome back to ‘The Barnes Report’,” Christine said into the camera. “Today we’re opening with a more light-hearted piece. So often here at ‘The Barnes Report’ it is all too easy to focus on the harsher aspects of what Barnes must be enduring during his time on Mars, but right now we’ll be talking with Antoine Triplett of the Postal Service. Mr. Triplett, welcome to the show.”
Triplett’s smile was wide as he grinned into the camera, sure his mom would get a kick out of seeing her son on television. When he’d told her about it, she’d instantly told him to get off the phone so she could call his aunties, calling him back an hour later to tell him all about how Aunt Tracey had been so envious, though of course she’d tried to hide it. Triplett knew his mother would be dining out on the story for weeks, likely calling the neighbour’s kid over to teach her how to record the segment so she could show it to everyone from friends to the mailman.

Who did not, no matter how many times she asked him, know Antoine. He’d never been able to disavow her of the belief that because they worked for the same organisation they must all know each other.

“I understand that James Barnes has achieved a Postal Service first,” Christine started. “Can you explain that to our viewers?”

“Sure. Back when it was thought that Barnes died, we at the Post Office released The Barnes Memorial Stamp.”

Turning to camera 2, Antoine held up an enlarged version of the stamp. Within a black border was printed an image of Barnes, backed by a waving flag. The picture chosen of Barnes was not, as had originally been selected, his crew picture. Instead it was a still from one of the many videos that Barnes had filmed on board the Valkyrie as Ares 3 had headed to Mars. Those that had watched the short segments knew the image came right after he’d sworn a blue streak about not understanding the manual for the camera, laughing at himself the moment he understood what the ‘freaking etch-a-sketch stick drawing BS illustration’ demonstrated. Winifred had requested the picture be used because she felt it more captured the spirit of her son and the Post Office had agreed.

“We printed about twenty thousand of them, during the two months that Barnes was thought dead.”

“Then NASA confirmed he was alive.”

“Yeah, they did!” Antoine laughed as he put the stamp down. “That threw us, a lot!”

Christine smiled back. “I’m sure it did, but for the viewers that don’t understand why that announcement was so surprising for you all at the Post Office, can you explain?”

“We don’t print stamps of living people,” Antoine clarified. “That’s an honor reserved only for those that have passed. So of course we stopped the run and tried recalling those that had already been shipped, but thousands had already sold.”

“And this has never happened before?”

“Not once in the history of the Postal Service.”

“I’d bet they’re worth something now, to a collector.”

Triplett laughed and nodded. “Maybe. Not too much though. Thousands were sold so they’re rare, but they’re not that rare. However,” Triplett continued, “those sold were often used, that’s the point of a stamp, so if any viewers out there have any unused ones in their purse or desk, and those are in mint condition, they’d be worth a lot more.”

“Well, viewers, you’ve heard it from the horse’s mouth; hold on to your James Barnes Memorial Stamps if you’ve got them.” Christine turned back to her guest. “Mr Triplett, before we end, you also has another connection to the space programme. You yourself are quite the legacy, are you not?”

Triplett gave a one-shouldered self-deprecating shrug. “I guess you could say that.”
“Your grandfather, Doctor Gabe Jones, was a part of the team responsible for getting a man onto the moon.”

“Yes he was, ma’am.” Triplett’s pride in his grandfather’s accomplishment was obvious. He’d been young when his grandfather had died, too young to really understand how important it’d been for someone of colour to have been openly recognised, from the outset, as being on the project. As he’d grown though, Antoine’s grandmother and mother had made sure he learned all about the work that his grandfather had undertaken, not only to get a man to the moon, but to better the conditions for the workers of colour. Doctor Jones, and the other people of colour, had had to work in a separate facility from their white counterparts, had to use separate washrooms – which their facility did not include, instead the workers having to walk half a mile to a building little more than a hut - and had to sit at a special table in the joint cafeteria.

“What do you think he’d think of the situation Barnes is in now?”

“Come on, girl,” Triplett chuckled. “I think he’d not be talking about it, he’d be right in Flight or Mission Control trying to think of a way to get that man home to his family.”

“And if it can’t be done?” Christine pushed that little bit harder.

“No need to think the worst until it reaches out, shakes your hand and says hello.”

“That something you’re grandfather used to say?”

Triplett laughed, his whole face lighting up. “No. He’d have rattled something off in French.” He raised his eyebrows. “Probably less than suitable for broadcast. Nah, that was a fortune cookie. I had some excellent takeout last night.”

“You’ll have to give me the name of the restaurant. On behalf of our viewers, I’d like to thank Antoine Triplett for stopping by.”

“Thanks for having me.”

Christine turned into the camera. “Our next guest is Doctor Andrew Garner, Flight Psychologist for the Ares missions.” Rotating her chair to her other side, the camera panned across to reveal the psychologist. “Doctor Garner, welcome to the programme.”

“Thank you,” Garner said, adjusting his microphone clip on the collar of his button-down. He’d watched the last few days of ‘The Barnes Report’, and searched Youtube for previous segments she’d hosted over the years. Between that and Pepper’s preparation, he felt pretty confident.

“Now you know James Barnes personally, is that correct?”

“Of course. I am involved in the selection of every Ascan into any NASA program and then I evaluate each candidate from then on.”

“In what way?” Christine asked, resting a hand against the desk.

“I have full access to every video of the training regimes for the Ascans, and I carry out monthly assessments one-on-one with each candidate. I give my recommendations at the end of every exercise and a full report to Director Fury when he makes his decisions as to the crew selection.”

“And your recommendations are taking into consideration?”

Garner sat back in his chair. “Of course. I can endorse the termination of an Ascan from the
programme based upon failing psychological assessment. *Valkyrie* is more than just an expensive piece of equipment, she’s a closed system. Imagine never being able to leave your house for over a year, and that you’d have only five other people for company. NASA has a duty to ensure that those aboard are able to do more than just ‘get along’ but really be a cohesive unit. The crew comprises of a lot of different personality types and yet they have to gel.”

Christine lit up. “Sources tell me that you endorsed the termination of an Ascan from the shortlist for Ares 3. Is that true?”

Garner tilted his head to the side. “I won’t be commenting on that.”

“Can I ask why not?”

“It’s not appropriate. Nor is it relevant.”

“I’m sure some of my viewers would fin-”

“They’ll have to cope without my answer.”

“That’s your choice.”

“Yes,” Garner responded with a smile. “It is.”

“Moving back to Barnes, you were present at the press briefing when it was announced that Barnes was alive. At that time, you stated that Barnes is an exceptionally competent, intelligent, and determined individual.” Garner didn’t miss how Everhart’s tone held an edge as though she expected him to recant.

Instead, he simply nodded. It was true the day he’d said it and it was true now.

“As both his friend and the crew psychologist, can you tell us more about him, who he is as a person? We know he was the crew botanist and the mechanical engineer, but who is he as a man?”

“Barnes is the sort of man we’d all want to be friends with. He’s got a huge heart, and is a very compassionate, and easy going guy. He’s very supportive, both professionally and personally, of the people that he’s around, and he’s always ready to jump in to defuse a situation that looks like it might go bad. He’s cheerful and upbeat, and he’s got a great sense of humour. He certainly tells better jokes than Barton.”

Christine smiled. “I think we all remember some of Barton’s responses at the crew announcement. He certainly has an…interesting sense of humour.”

The public didn’t know the half of it.

“Barnes is the type of person that is always ready with a joke or a laugh which served both him and the crew in good stead during training. Training to go into space is gruelling, and it takes a toll, emotionally, physically and mentally. Anyone going through an ordeal like that will show signs of stress, of moodiness and while Barnes was no exception, he was able to crack jokes and keep the crew laughing. Part of that is Barnes, he keeps them together and keeps their mood up.”

“All those things will help him mentally and emotionally with the strain of being so alone. What Barnes is going through is pretty extreme, and there will be times when the enormity of what he’s having to endure simply to survive seems overwhelming, but he’s a very emotionally stable young man who, even when tested past him limits by the rigorous regimens of the training crew here at NASA, always kept his cool, always stayed on task.”
“We’ve all seen on the news tales of survivors of extreme events, be they natural disasters or horrific failures of technology,” Garner didn’t miss the unsubtle dig but didn’t rise to it, “and their tales of isolation and fear of death were terrifying.”

Garner nodded. “I’ve always been fascinated by stories of survivors, as I’m sure many of your viewers have. Their tales of how they survived, what got them through it, how they endured incredible pain and fear…” Garner looked down at his hands. “For example, the Chilean miners twenty years ago relied on routine, on work and exercise and ensuring they got ample rest. Now of course most of those men were not alone, they had each other to aid their survival, but just like now, at first it was believed they had all died. It took almost three weeks to even know they’d survived, and once that was discovered a comprehensive plan was put into action to rescue them.” Garner grinned. “NASA even helped, and 69 days later each and every man was brought to the surface. The men worked as a unit to keep up morale, to support each other. Luis Urzúa, the foreman, was credited by other survivors as helping the other men stay calm, that his humour and level-head kept miners focused and dedicated. Barnes doesn’t have a team with him anymore, but he is an incredibly capable man, just like Urzúa. I have no doubt in my mind that he’s found ways to keep his spirits high, and laid out a routine to keep himself on task.”

“You’ve talked about his emotional survival, but what special skills does Barnes have that might ensure his physical wellbeing?” Christine turned to the camera. “I’m sure viewers will remember that the files released by NASA of the crew’s reports of claim that Barnes suit was punctured by the object that hit him.”

‘Still with the ‘claim’, Christine?’

“Decompression doesn’t kill instantly. A person can survive for almost 90 seconds with a compromised suit, and as the crew files and data logs show, the suit did experience decompression. We’re not yet sure how he survived, but I’m sure the public can forgive us that we are focusing most of our efforts on a rescue plan, rather than determining how Barnes survived.

Christine’s smile faltered, and where they rested on the desk, her hands clenched together.

“Not even a guess?” She asked tightly.

“It’s possible that Barnes was conscious after the accident and able to crawl to a rover and get inside as one of those may have been closer to where he landed, but I wouldn’t want to make an assumption. When we make contact with him, we can ask.” He cut off her next question, one no doubt centered around his use of the word ‘when’.

“Most important for his physical survival are his high intelligence, his excelling at problem solving and once he turns his mind to a task he’ll master it. He’s also highly resourceful.”

“Those sound like traits that may save his life.”

“They may indeed,” Garner agreed.

“He sounds a great guy.”

Garner nodded as he agreed. “He is. He was chosen for the crew, in part, because of his personality. He’s incredibly accomplished in his specialties but his personality was also a factor; Barnes can fit in with any social group and he’s a catalyst for the rest of the crew to work better as a whole, and team compatibility is key to survival out there. When he ‘died’, it was a terrible blow to the team.”

“Let’s talk more about that.” Christine pounced. “At the moment his being alive is still being kept
from the Ares 3 crew.” It was evident from her tone what she thought of the withheld information.

“Unfortunately, yes.”

“We were involved in that decision at all?”

“Yes, I was. It wasn’t an easy decision to make, not at all, but we all had to take into consideration
the journey the crew is undertaking. Space travel is not easy and it’s dangerous, for all our
advancements, and they have many months of their travel to go. As such, it was agreed that for now,
it would be best to keep his survival from them. To tell them now, when there’s no rescue plan that
is ready to be implemented and with them knowing that they can’t just turn around and go get him,
would be unnecessarily cruel.”

“For now?” Christine pressed.

“It is our intention to inform the crew once there is a rescue plan in place.”

“Are you worried that the crew might turn on each other? That they might blame one another for
leaving him behind?”

“Absolutely not.”

“You sound very certain.” Christine, for her part, sounded disappointed.

“Because I am. It’s not just Barnes that’s level-headed, it’s the whole crew.”

“But surely it’s only natural to blame-”

“They don’t blame each other, Miss Everhart. They blame themselves. They will continue to blame
themselves even when they learn that he’s alive. The decision not to inform them has nothing to do
with a concern that they might blame each other.”

Christine sat back.

“I hope you’re right.”

“I know the crew, Miss Everhart. I know them as an astronauts, and as people. I can assure you that
learning the true outcome of the accident will not turn the Valkyrie into a warzone.”

“Talking of a warzone, I have to ask; what is going through Barnes’ mind right now? How does a
man like James Barnes respond to the sort of situation that he is in?”

“There’s no way to be sure. We here at NASA have studied the effects of extreme isolation, but
never with just one person, it has always been a whole team of individuals under examination. What
we have learned, however, if that the most important thing is for him not to give up hope. If he loses
hope, he may give up.”

“We’ve all seen him prepping the rover for what appears to be a longer journey than we’ve ever seen
him undertake. When James Rhodes, Director of Mars Missions, was here with the show a few days
ago, we spoke about the probability of the Ares 4 mission being Barnes’ saviour. Is it considered
that he is in fact preparing to travel to Schiaparelli, the site of the Ares 4 mission?”

“That is one interpretation of his actions certainly.”

“There’s another?”
Garner carefully thought of his answer before continuing, running through his earlier conversation with Pepper. He’d really rather not go down this road, but refusing to answer would be answer in of itself.

There was no way of coming out of the interview without having one with Pepper shortly after. He had a feeling her, already long, list of words and topics not to touch with a barge pole was about to get longer.

It was sometimes better to beg forgiveness than ask permission.

“When facing death, people want to be heard. We don’t want to die alone. It’s possible that he’s not planning a trip to Schiaparelli in hopes of rescue. He might just want to get to the MAV so he can talk to another soul before he dies.”

“How likely do you think that is? You’ll have to excuse me, Doctor Garner, but you’ve spent most of this interview telling the public how resilient, mentally and emotionally, Barnes is, and how that strength will get him through, and now it sounds like you’re suggesting the opposite, that Barnes might in fact be making a pilgrimage to die.”

“That’s not what I said, and this is not an interpretation that I ascribe to. However, nobody, in the history of mankind, has ever existed alone. He has an overwhelming task ahead of him, one that is stacked against him. We also don’t know how injured he may have been during the accident. It’s possible that he’s hurt or sick. Conditions such as that can wear a person down.

“I’d also like to stress that this is only one of many possible reasons for his journey, one that is reliant on a number of ‘ifs’. If he’s dying, if he has lost hope, if he’s of the belief he can’t survive, he won’t care about surviving until Ares 4 arrives. His only concern would be the radio. After that…well, there is another morphine in the medical bay to be lethal.”

Uncharacteristically, Christine didn’t have a follow-up question, the pair sitting in heavy silence for several seconds.

Turning to the camera, Christine addressed the viewers.

“On that note, we’re going to take a short break here at WHIH, and we’ll see you in a minute.”

In his breast pocket, Andrew’s phone began to vibrate.

“Hey Rhodey.” Bruce’s voice was tinny through the speakerphone.

“Bruce, thanks for making some time for me.”

Rhodey liked Bruce. Being at different sites and in different time zones sometimes left their friendship a little dormant at times, but Rhodey had always appreciated Bruce’s quiet strength and demeanor. Sure, the guy could be a little secretive sometimes, and you really didn’t want to catch him on a bad day, but he was also calm, scary good at his job, dependable, and capable of enduring even the worst jabs Tony had to offer, sometimes even physically. The last time that had happened, Bruce had refused to step foot into Houston unless he had it on authority, from Fury, that Darcy’s tazer was under lock and key.

Tony had been unrepentant.
Nobody had expected otherwise.

“What’s on your mind?”

“I have a couple questions about the presupply probe.” One big one really. One that should have occurred to everyone at the table when Bruce had been in Houston.

“Like what?” The engineer sounded distracted, the other man likely doing what Rhodey was – splitting his attention between the phone, the computer screen before him, a stack of notes, and studiously ignoring the intern in the doorway trying to get his superior’s attention without actually doing anything as rude as interrupting.

The windmill impression was pretty good, but fucking distracting. With a wave of his own arm, Rhodey sent him away, flapping his hand ever more forcefully as the kid just didn’t get it.

Rhodey missed Miles. The kid had spent the morning in Rhodey’s office, the scratch of his pen and the occasional crunch of chips being the only indicators of the boy’s presence. Pepper had struck a deal with Rio Morales that Tony would pay to have Miles’ schoolwork couriered down to Houston and Miles could continue to stay. The last Rhodey had heard, the Media Director had been convincing Mrs. Morales with how the experience of being an Exective Intern for the Directors – a role she’d pulled out of her ass because Miles was that good at convincing people to help him get what he wanted – would look phenomenal on a college application form. College that Tony had already set up a scholarship for. Rio might have been somewhat concerned her kid had been abducted by crazy scientists, but a full-ride to college was a full-ride to college. An eyewateringly large package had arrived for Miles that morning, the kid withering under Pepper’s gaze when he’d complained about it.

For hours after the parcel was dropped in his lap, he’d lounged on Rhodey’s couch – ‘please, just let me stay? The guys in the lounge are so loud and Stark’s being…well, Stark and Miss Pepper’s office is full of her minions and Darcy told me I couldn’t stay with her after the thing with the pastries and Kate says there isn’t room for both of us in her closet and that’s kind of true and can I just stay with you, please?’ – as he tackled his owing homework. He’d taken every opportunity he could get to avoid it, eagerly abandoning it to head off interns and engineers and other staff that wanted Rhodey’s attention but were just not on the Director’s to-do list that day.

Foggy and Matt had collected him for lunch twenty minutes before Rhodey had called Bruce and it was as though everyone that wanted his attention had been waiting around the corner for Morales to leave, descending upon him like a swarm of locusts.

He was five minutes away from actually hiring the damn kid just to ensure some quiet time.

“Let’s assume we soft-land the presupply perfectly. We get the food safely planetside. How will Bucky know about it? Or even know where to look?” The landing site couldn’t be too close to the Hab in case of deviations off course or debris from the lander potentially causing damage to the Ares 3 site – because wouldn’t that just be the fucking kicker? Get the food Barnes needs to survive to him, but rip the Hab apart in the process.

“We’ve been on that,” Bruce answered with a yawn. “We’ve got a few ideas.”

Rhodey resisted the urge to be flippant, instead nodding even though Banner couldn’t see him.

“I’m all ears.”

“We’re sending a comm system within the probe. Within the comm system will be a homing beacon
like the one that Hab has that allows the rovers to return to it if their nav system gets fried. The probe will pretend to be a mini-Hab, broadcasting on the same frequency as the suits and rovers. If we land the probe within 20km of the Hab, the beacon will be picked up by the suits and rovers. The EVA suits have an even more reduced range but if the signal is strong enough, he’ll hear us.”

“What will he hear? ‘Hey, I’m here, come get me?’ How will he know where to look?” Even if they landed the rover within a 20km radius of the Hab, that was a lot of ground to cover, almost 500 square miles to scour. If Barnes didn’t even have a directional clue, it’d take him days to find it.

At best.

“Once it lands we get its exact location from the satellites, we broadcast the location to Bucky.”

“Right. How?”

“The rovers have screens.”

Rhodey gave in to the desire to be flippant. “You don’t say.”

“We send a short message.”

“Hey, Bucky, how are ya?”

“I was going for ‘all work and no play make Barnes a dull boy’, but whatever floats your boat.”

“If he’s not expecting any communication, chances are he has those systems turned off. How do we get the messages to him?” That would be the worst case scenario, much more of a nightmare for Rhodey than the probe missing Mars or being destroyed on impact; to know that the probe had landed, that the food and supplies that would keep Barnes alive until they could get to him where on Bucky’s doorstep and he didn’t know they existed…

“We working on a bunch of bright, neon green ribbons that are light enough to flutter around. Each ribbon has ‘BUCKY TURN ON YOUR COMM’ written across it. My team is working on a release mechanism for it now. We need to time it to release high enough that the ribbons will cover the whole area around the Hab, but not so high that they spread too far, reducing his likelihood of seeing them.”

“He’s a curious guy; he’ll go check out a bright green ribbon if he sees one.”

“That’s what we hope.”

“As Hail Marys go, it’s an original one. Green ribbons…we’re turning Mars into Planet Hulk.”

Halfway through his agreement, Bruce yawned so hard his jaw cracked, Rhodey wincing at the sound.

“You been getting any sleep, Bruce?”

“What do you think?”

“I think you need some. Your main plan revolves around throwing a ticker tape parade and helping Barnes go on a treasure hunt.” Rhodey ignored the indignant grunt that gleaned from his friend. “Regardless of what Tony says, human beings actually do need sleep. Working exhausted isn’t a good idea.”

“You worried I’m gonna break LA?”
“Nope.” Even if he had Rhodey knew he’d have no hope of stopping it – like everyone else, Rhodey had heard the rumours about the probably classified military projects that Banner had worked on before being recruited to join NASA. Unlike more than a few people in their respective buildings, Rhodey didn’t ask about what happened in Harlem, and Bruce didn’t offer any explanations. “Just making sure you’re not mainlining caffeine and turning into a zombie.”

“Because there isn’t a cluster of cups in your trash.”

“You’ll have to pry that information out of my cold dead hands.” Rhodey absolutely did not look down guilty at the overflowing stash of cardboard cups in his recycling canister, because he wasn’t a heathen and at least his addiction could be a little environmentally conscious even if it wasn’t healthy.

“Hypocrite.” Bruce huffed a laugh before turning sombre once more.

“Rhodey. If he’s taking the rover to Ares 4 now, this’ll be for nothing. We can land there but he’ll have-”

“He’ll have nothing. For what it’s worth, and don’t tell anyone until I’ve confirmed this, I don’t think he’s going to Schiaparelli.”

There was a minute’s silence as Bruce thought about that.

“Where is he going?”

“Your guess is as good as mine right now. One thing at a time, Bruce. Let me know about the release mechanism for the ribbons.”

Thirty seconds after ending the phone call, an email from Kate came through.

“Recharge is complete. Barnes is on the move again.”

“Y’know,” Kate offered by way of a greeting as she heard Rhodey stop at her door, “one day I’m going to email you, and you actually won’t be in the building. Do you even have a life?”

“Do you?”

“Touche.”

“If interns and engineers and the press and Tony had someone else to harass, then I might one day get around to having a life, but the upkeep,” Rhodey sucked on his lip, “all that socialising…doesn’t seem worth it.”

“Yeah. Friends. Who’d want fun and cocktails when you could be watching space-boy?”

“Hit the town with Pepper one day, see if you think fun and cocktails really go together.”

‘Hit the town’? What are you, ninety?’

“I think I liked you better when you were afraid of me.” Kate snorted. “You call me down here for a reason, or just to vent?”
“You gotta abandon that binary thinking, Director. I can vent and enlighten you at the same time.”

“Right now, you’re annoying me.”

“It’s a gift.”

“It’s something alright. Barnes back at the wheel?”

“Still going in a straight line,” answered Kate as Rhodes stepped into her office. She pointed to the screen where Barnes’ rover could be seen slowly making its way further from the Hab.

“Still Southwest?” Rhodye asked, learning over Kate’s shoulder and squinting at the screen. He really needed to fuck pride and succumb to glasses. At very least to give his eyes a break when he’d been awake for way too long.”

“Like a knock-off Hitchcock.”

Rhodey released a relieved breath, feeling all the tension drop from his shoulders, a tightness that had been present for so long he’d stopped noticing it, the muscles burning as they relaxed, his chest expanding in a way it hadn’t for so long, his breath coming freely.

“He’s sure as hell not going to Ares 4. Thank fuck for that.”

He’d never admit it to anyone but he’d been petrified at the thought that Barnes was really heading to Schiaparelli prematurely, that Garner’s words would be prophetic, his friend travelling to the MAV to make contact one last time before dying.

But it didn’t help him know what the hell Barnes was doing.

“Yay for that and everything, and I mean that, it’s great, but uh, where is he going? He’s 156km from the Hab now. Definitely following the pattern of drive, EVA, drive, charge.” Kate zoomed out of the image, further and further until the rover was a mere speck on the screen, its fuzzy, grey pixels bisected by the langtitude lines on the screen.

Rhodes got closer to the monitor, clearly seeing something she couldn’t as she leant away to give him more room. Kate startled as Rhodey placed his hand over hers on the mouse, his finger pressing on top of hers to manipulate the image, grunting in frustration when he couldn’t pan any further to the left.

“How do I?”

“You wanna see ahead of-”

“Yeah.”

Kate shook off his hand and began to type, oblivious to how Rhodey’s eyes had narrowed as he looked at the screen, the Director leaning further into the screen.

“It’s not going to be immediate,” she warned. “Even if I can get the images, it’s going to take almost an hour for the message to get to the satellite, the camera to adjust, the images to be taken and for them to get back her-”

“Is he…” Rhodes interrupted, almost shouldering Kate away from her station as he reached up to trace one finger down the screen in the direction Barnes’ was travelling. “He’s…son of a bitch!” He grabbed the pen and pad of Post-Its next to Kate’s keyboard.
“I need his exact location as of right now, and the location of the Hab.”

Not wasting time asking questions that would likely be answered soon enough, Kate checked her screen and recited the co-ordinates of Barnes’ rover. She didn’t even need to bother switching screens for the feed of the Hab or check her notes: if there was one thing she’d learned over the last few weeks, it was the co-ordinates she’d been staring at every day.

“What do you see?” She couldn’t help herself asking, tilting her head to the side and letting her eyes relax like the answer would come to her like those retro Magic Eye things her sister had loved.

Shockingly, a dolphin leaping throw a hoop failed to appear on the screen.

Nor did the answer to what Rhodey had so excited.

“Come with me.” Without looking back, Rhodes strode from her office and down the hall, Kate scurrying to keep up.

“Where are we going?”

“SatCon break room.”

Kate stopped dead. “Uh, no you’re not.”

Rhodey glowered over his shoulder, pace barely slowing as he strode away from her. “I don’t give a shit that I’m not from this building, I’m the Director of Mars Missions and I can go into any damn break room I want.”

“Not that way, you can’t.”

That brought Rhodey up short and he turned on his heel in time to see Kate thumbing over her shoulder.

“It’s that way.”

Coughing to cover his embarrassment, Rhodey brushed past Kate. Determinedly ignoring her sniggering, he asked, “You guys still got that map of Mars on the wall?”

“Sure. But it’s a crappy thing from the gift-shop. I’ve got the high-quality maps on my computer back in my office.”

“I can’t draw on that.” Rhodey held up a black sharpie he’d stolen from her desk.

“You’re gonna draw on…” She trailed off as the entered the break-room, its lone occupant sipping a cup of shitty coffee and reading from a notebook, startling at their arrival. Rhodey checked his watch with a frown: it was prime lunch time, yet the place was practically deserted.

“Where is everyone?” Kate asked the guy sitting alone. His mouth dropped open, a rivulet of coffee trickling from the edge of his lips, much to the young engineer’s disgust. With a squeak of mortification, the guy grabbed a handful of napkins from the chrome dispenser, almost flinging it across the room in his haste.

“Uh, um, that crazy chick from Phillips’ team challenged Murdock to a duel and I get kinda queasy at the sight of blo-” He trailed off when Rhodey held up a hand.

“There are things I don’t need to know.”
“There are things I do need to know, however,” Kate stated as she perched her butt up onto the guy’s table. “Like if there’s a betting pool.”

Rhodes ignored them both, heading instead for the poster that hung on the opposite wall to Queasy-Guy’s booth, noting idly while he did so that he really ought to tell some of the interns camping in the Director’s lounge that there was a lot more room in SatCom.

“Good, it’s got longitude and latitude.” As he fussed with the tabs on the back of the cheap frame the poster had been hung in, Rhodey briefly contemplated just smashing the glass on the edge of a table. He dismissed the idea as the result of spending too much time with Tony.

“Dude, what are you doing to our poster?” Queasy-Guy asked as Rhodey tossed the troublesome backing over his shoulder, taking out the condiments on the table behind him, salt spilling across the surface as the shaker rolled across the Formica.

“Hey! I don’t know who you are, pal, but you can’t just-”

“He really can,” Kate countered as she stood, watching as Rhodey spread the map over the table. Looking over the Post-It attached to the back of his hand, Rhodes made a large X and scribbled ‘Hab’ next to it.

“Dude, come on!”

“Bill me.”

“Yeah, you can send the request to Director Rhodes.” Kate looked up to catch the look of fear that flashed over the guy’s face, his sandwich falling to the table with a faint thump as he stared at the pair hunched over the map.

Making another X, Rhodes scribbled ‘Barnes’. “I need a ruler,” he mumbled to himself and seeing no other potential source, Kate reached over and grabbed Queasy-Guy’s notebook and held it out.

“Hey! C’mon, dude, there’s a line!”

“Do you have an off-switch? I’d be happy to try and find it, if you want.” Kate stated as Rhodes used the hard edge of the book to draw a line between the two Xs. Standing back, Rhodes turned to Kate, his smile wide, eyes a little wild, his expression delighted.

“I know where he’s going.”

“Ya hear that?” Kate asked, directing her question to the guy who was trying to reconstruct his sandwich with shaking hands. “This freaking ten buck map you were getting all antsy in the pants about just saved the day.” She just wasn’t sure how.

Kate peered at the map, cocking her head to one side as she tried to put two and two together and not make 17 and humiliate herself in front of the Director. Where was Barnes going? What else was up there except him, the Hab and Ares 4? What else was out there except maybe the odd…

“Oh!”

She stole the pen from Rhodes’ hand and continued the line freehand down the map – because defacing employer property was fun and educational - and through a yellow dot marker, one of two
on the map, the other in the opposite direction to Barnes’ travel.

“Pathfinder. The crazy idiot is going to retrieve *Pathfinder.*”

Idly, Rhodey wondered what the drive was like. Nobody had ever been there before, and the images from space only allowed for so much deduction about the terrain.

He also wondered what in God’s name Barnes was using as a map.

“Now we’re getting somewhere! That’s why he didn’t take all that shit with him – it’s an 800km trip, he’s got everything he needs for something that short. He can get the Lander, *and* determine that his Franken-rover can handle the trip.” Rhodes tipped his head back as though looking at the ceiling. “Barnes, you beautiful bastard!”

“We lost contact with *Pathfinder* in 1997, right?” Queasy-Guy queried, cringing down in his seat when the pair turned to him, only hesitantly reaching forward for his notebook when Kate offered it, snatching his hand back immediately. “Right?” He asked again. “I mean, it died, how much use can it be?”

“If anyone can fix it, he can,” Rhodey answered. “Anything could have gone wrong with the Lander but fixing shit is his job. He’s lived this long, who says he can’t fix a decades old Lander?!” Rhodes pulled out his phone, punching in a number so fast Kate barely saw his fingers move.

“Bruce? The game has changed. He’s not going to Ares 4. He’s heading to *Pathfinder.*” Kate could hear the incredulity in Doctor Banner’s muffled answer. “You’ve got to dig out anyone, *everyone,* involved on that project and get them to JPL now. I’m catching the next flight.”

Hanging up, Rhodes tapped his finger against the X that represented Barnes.

“Go get it, little cockroach.”
On The Road

Chapter Summary

Bucky embarks on a dangerous journey to Ares Vallis and the precious thing it holds. Will he be able to find what he's looking for?

Log Entry: Sol 79

Sol eight of my National Lampoon: Rover to Mars vacation.

Evening eight, actually.

Pluto 5 has been pretty successful so far.

Disgusting, but successful.

For a start, I’m not dead. Or completely fucking insane from cabin fever.

I have got really low standards for plans these days.

That latter one is damn well hovering on a knife edge, lemme tell ya.

But still, it bears being proud of. I’ve been away from New Brooklyn for eight sols and I’m not dead. I’m not even dying. As plans go, that’s pretty fucking awesome.

I guess you’re wondering what the fuck I’m doing.

If not, why not?

I’m on my way to find something without which I wouldn’t be here. Nobody ever would have been.

You know what I’m talking about?

Mars Pathfinder.

Remember when I mentioned the other failures that litter the surface of Mars?

Pathfinder is kinda one of them. But if I can get my hands on it, it’s going to be the most important thing on the planet.

Besides me of course.

Pathfinder is my key to getting home.

I’m suddenly real glad that the spare battery couldn’t go on the flatbed – Pathfinder can. Fucking easier than trying to put it on the fucking roof or something. How the fuck would that work? The flatbed has a maximum payload of just over a tonne, and Pathfinder is gonna weigh way less than that. Sojourner can call shotgun, so that just leaves the Lander. She was less than a tonne when she was rocketed into space so by the time heat shields, and parachutes, and airbags have deployed and ripped away, she’s gonna fit real well on R2D2.
I hope.

God, I hope *Pathfinder* fits on the fucking flatbed.

I really don’t wanna have to put it on the roof. Please. Can I just catch a fucking break and not need to carry out crippling manual labour.

Just one day.

Please?

It’s one thing when I’ve been sleeping in something that at least vaguely resembles a bed, but I’ve been sleeping on a few – fucking thin – blankets thrown over a bunch of clothes that I rolled up. I feel like a fucking dragon sleeping on a nest, which ordinarily would be fucking *cool*, but right now I can’t really appreciate it. Having to haul around hundreds of pounds of Lander when my *everything* aches like fuck is not my idea of a good time.

Even if my survival is kinda dependant on it.

Welcome to the Bitching Barnes Variety Hour.

Over the last eight days I’ve fallen into a simple routine. Wake every morning at dawn, check O2 and CO2 levels, eat a breakfast pack and drink a cup of water. After that, using as little water as physically possible, I brush my teeth – I’m stuck on Mars, but I’m not a fucking Neanderthal and I got no dentist so while I might be down to brushing my teeth once a day with as little toothpaste as possible, I still maintain some hygiene standards - and then I shave with an electric razor.

I learned from the New Brooklyn Big Bang – I stay clean-shaven. Or at least as close to that as I can with an electric razor.

None of that sounds disgusting, you say. Well, you’ve never eaten a NASA approved meal pack but that’s only mildly stomach-turning.

Because I haven’t gotten to that part yet.

Y’all forget what I tell you five minutes after I say it, don’t you? Jesus fucking Christ, you gotta retain a least a little of what I tell you, or what is the point?

The rover has no toilet. We were never expected to have EVAs of this length. Generally 4-5 hours was what NASA budgeted for, and during that time our suits’ reclamation system was to take the place of a toilet

But they aren’t designed to hold 20 days’ worth of output so…

My morning piss goes into a sealable box. The rover stinks like a public men’s restroom that’s been abandoned for three months with each bowl full. I *could* just take it outside and pour it out but I worked fucking hard for that shit. Or rather, water. I blew myself up. I turned the Hab into a bomb – I’m not pissing it away on the surface of the planet!

See what I did there? I think the fumes in here are getting to me.

That box is coming back to the Hab with me and its contents are getting fed into the Water Reclaimer.

Speaking of shit, that is as important, if not even more so, than my urine. It’s an absolute necessity
for Barnes Farm and my ass is the only source on Mars. Fortunately, all Martian astronauts develop a particular skill – how to take a dump in a bag. If you think the rover reeks when the piss-box is open, imagine what it’s like with the bag.

It’s like living in an especially hygiene-lax frat-house. Or the shithole apartment I lived in while I was getting my engineering degrees. I’ve lived in some shitholes in my time – botany, unless it’s of the illegal kind, ain’t exactly known for being super lucrative, y’know – but that one…

It had a roof, I’ll give it that. It was about all that it had, apart from infestations, but it did keep out most of the rain. It couldn’t keep out the cold, there wasn’t even a car in the elevator shaft, half the lights never worked because the electrics were for shit, and the wind howled through the building the moment there was more than a gentle breeze, but the worst thing were the shared bathrooms. One per floor, with each apartment – and I’m using the term real generously – having a key. I was lucky that there were three unoccupied rooms on my floor, but me and the other guys on the floor did have to put up with the asshole in 23B. He’d trash the bathroom, for fun. He’d punch the walls, break the windows, deliberately flood the sorry excuse for a bath, and throw shit around.

I don’t mean that he’d grab whatever was in there and throw it, I mean he’d literally throw his own shit around. At least, I hope it was his own.

That thought it gonna haunt me for a while.

Unsurprisingly, the second Ma saw it, she badgered me until I moved back home for a while. It took her precisely 35.5 hours of prodding to get me to agree, and I was reunited with my childhood bedroom and banging on the blissfully clean bathroom door while yelling at my sister to hurry the fuck up.

What the fuck she did in there for hours at a time, I really don’t wanna know. At least I had the decency to do most of my primping in my own room.

When your hair is this good, it can take a while to find a way to make it look better.

I always found a way.

Sadly, I still got another two weeks in this shitbox with no chance of fresh air any time soon.

But I’m almost – God fucking willing – to my destination. And it’ll be so worth the discomfort for what I’m after.

After my morning ablutions are complete, I head out into the pre-dawn gloom and collect up the solar cells – I don’t stack ‘em the night before because trying to dismantle and stack ‘em is fucking stupid to attempt in total darkness. When I say total darkness, I really fucking mean it.

You ever been out in the country, fucking miles away from anywhere with no streetlights? It’s pretty dark right?

This is worse.

There’s no moon, no nothing. My eyes never adjust because there’s not even a glimmer of light to adjust to. It’s real fucking beautiful, you ain’t never seen the Milky Way like I have, but it’s also fucking dangerous.

I damage the cells and I’m fucked. I’ll die before I get back to the Hab without the rover, so for once in my Martian career, I’m being sensible.
Three week road trip with only my car to keep me alive, notwithstanding.

Once the cells are stacked up, it’s time to crank up the tunes and git on out little doggie, at the rover’s impressive top speed of 25kph, with my trusty box of cancer keeping me toasty warm and comfortable. Now that I’ve constructed the Spring/Summer collection by Barnes, it’s pretty comfortable in the rover in my cut-offs and tank.

That’s right, I’m wearing booty shorts.

Ain’t that a visual and a half?

Remember the pants that I completely fucked during the Barnes Bomb situation?

Waste not, want not. Seeing as how I’ve gotten down with my crafty self, and having experienced the sauna that was RTG Rover, I cut off the burned and bloody parts of the sweatpants – which was basically most of the fucking pants – and so I’m driving around in hot-pants.

Sexy as fuck, right?

I won’t be pissed if you say no.

Honest.

I’m pale as fuck, and the scars on my leg from my brief flying trip are still pretty fucking purple so it’s not really the look of the century, but hey, driving the catwalks of Mars this season, are the Barnes Leiderhosen and the Barnes Booty Baring Briefs.

Limited time only, available only on the Red Planet, astronaut not included.

When I still overheat – because let’s face it, I’m hot as hell in this ensemble - I remove my duct-taped insulation panel and let it cool down a little. If I get cold, I fit it back in.

This scintillating routine continues for a couple hours until Battery 1 craps out and then it’s time for an EVA to switch the cables and then I slide behind the wheel for the rest of the day’s drive.

Wanna know the high point of my day, yesterday?

Brace yourselves, it’s good.

Using a food tray, a smidge of resin, and a chunk of insulation repurposed from the door renovations, I got myself a lap desk which makes working – aka plumbing the depths of Rogers’ entertainment drive - during my down time recharging so much more comfortable.

Just slap my ass and call me Macgyver.

Fuck you and your laughing, that is good as it gets up here sometimes.

Spending the sol doin’ this shit is like watching paint dry, but without the benefit of home improvements. In fact, it just makes me think of the Hab and worry over how it’s doing in my absence. I shut off every single unnecessary appliance, anything that’d take up electricity such as all the lights that aren’t in the main compartment, and with my absence, I could lower the temperature just a little – still in the optimum range for my plants – to reduce the electrical demands.

But I’m not going to be there to clear the solar panels and I’ve stolen half the array. The day before setting off, I hooked all the panels back into the array to ensure the backup batteries would be 100% full so that the reduced production from the array won’t be too much of a problem.
I hope.

But every moment spent not navigating around cracks in the ground and deciding upon the best route around an unexpectedly rocky outcrop – fascinating shit, huh? – is spent shitting myself over what might go wrong back at the Hab.

Doin’ that is going to drive me crazy.

It’s gonna be a short drive.

For the sake of my sanity I need…something. Back home when I was stressed out, I could go outside and bask in the sun; go for a drive; hang out on the roof of my building, and shoot the shit with the guy that keeps a weather station up there; I could walk the bustling streets of New York, coffee in hand and just breathe the fresh air. Up here, I get to put on a suit to clear solar panels and change batteries, sit under a sun-lamp in the rover, watch TV, try to figure out where the fuck I’m going seeing as I have no maps, and talk to myself.

I spent three hours during the last recharge wondering whether if aliens found me on Mars, they would consider it a violation of the Prime Directive if they rescued me.

You still wanna be an astronaut?

Still think it’s cool and glamorous?

Don’t rush to answer, I can sell Mars to you even more.

The terrain is…it ain’t entirely as advertised is what it is, let’s put it like that.

NASA fuckin’ lied to me, would be another, somewhat more accurate, descriptor.

Sure, it’s desolate, forbidding, and fucking hostile, but Kansas it fucking ain’t.

Flat, they said.

Small rocks, they said.

Fuck you, I say.

Maybe from space it looks as flat as Stark’s ass, but from a few feet off the surface, I can tell you it ain’t. So far on my little expedition I have encountered: entire football fields of boulders that are well above the height of the rover; fucking huge fissures in the ground, creating steep-ass cliffs so I gotta drive for miles to cross safely – which takes a stupid amount of time by the way; a whole slew of secondary craters making the ride real rough and uncomfortable for my undercarriage, let alone R2D2’s.

Were I a rock nerd like a certain Commander, I might spend my time reflecting on what ‘something’ wiped out much of Acidalia Planitia’s crater record – sure I’m bitching about it, but it’s actually a hell of a lot smoother than some places on this hell planet. Schiaparelli I’m looking at you – or mulling over volcanism and its role in resurfacing Mars. If I were really bored, I might wonder about which direction the infamous ‘Face on Mars’ is in and whether I could determine if the trio of domes around here somewhere really are mud volcanoes as is proposed.

However.

Sol after sol after sol of having my teeth rattling around in my jaw, and my balls – already in danger
of damage from my hot-pants - getting crushed kinda killed any desire to give a shit about anything.

If I get home, I’m having some stern words with whomever looked at the images of Mars and said ‘yup, flat as a pancake, lets send some idiots there.’

The landscape didn’t exactly fill me with the joys of travel about getting to Schiaparelli. If NASA got this shit wrong, what the fuck else in my notes is complete horseshit?

About half of the rocks out there I can drive over, R2D2 laughing in the face of their sharp-edged attempts to gauge the undercarriage apart, but the rest…What I’d hoped would have been a pretty straight line to my goal is a lot less as the crow flies and a lot more drunk bumblebee as I avoid clusters of boulders the size of a house, and find ways over metres wide cracks in the ground.

R2D2 may not be the Batmobile tumbler, but she’s taking the abuse pretty damn well. I might have to drive around a lot of shit, but point the rover at a steep incline – of which they are a lot of the fuckers – and she just gets down to business.

That’s my gal.

On the other hand, Acidalia Planitia is home to a super thick deposit of fine-grained sediment and I look super fucking cool, leaving an awesome dust trail in my sorta wavering wake.

Silver lining that’s as good as any.

So that’s how I’m spending my days.

When Battery 2 is almost drained I stop, haul down the solar cells, spread ‘em out – I used to line them all up but it didn’t seem to make much fucking difference so now I don’t bother – close to the rover and prepare to survive the next twelve hours of boredom.

‘I Spy’ is a really short game when there’s only one of you, and all you can see in every direction is miles and miles of fuckin’ Mars. I spy with my little eye another red rock.

I win.

Oh, hey, do you know why Mars is red? It's coated in iron oxide. This planet isn't just a desert. It's one that's so old it is literally rusting. There, your snippet of new knowledge for the day.

Now some of you smartasses might be thinking ‘uh, there’s no oxygen, how the fuck did the iron oxidise?’

First, lemme say how impressed I am that some of you are awake and actually paid attention in school, and second, I’m gonna frustrate the shit outta you by saying I don’t know. Jury’s out. Maybe when Mars was just a young lil heap of rock that was still wet, the regolith was hit by constant rainstorms that just bombarded it with freed oxygen atoms freed from the water molecules. Or maybe it was over a much longer time, billions of years of sunlight breaking down the carbon dioxide in the atmosphere to produce ozone – as well as other shit. Or maybe the dust storms rusted the iron over time by crumbling the quartz crystals that exist in the regolith, thus leaving their oxygen-rich surfaces exposed.

Who the fuck knows?

Not me and I ain’t going out there to get samples to test. Somewhere in Valkyrie, Rogers just burst into tears.
But however it happened, Mars is a rust-bucket and that red tinge is why it was named after the god of war.

Don’t say I never teach you nothin’.

Why am I thinking about why Mars is red?

Do you know what it’s like to be stuck in a shoebox for 24.5 hours a day, every day with nothing to do but find a path around breccia? Unless you’re a private dick or something, I’m guessing you don’t.

I can feel my brain melting, that’s how boring it is.

The inside of the rover is roughly the size of a van, and yeah, I’m sure to you that sounds pretty roomy. But you can leave. You can go outside. You can breathe fresh air and talk to people and play on your cell or fuckin’ anything.

Hell, you can roll the fucking window down.

I can’t.

I got at least two more weeks of this shit, and depending on the detours I gotta take to get to my goal, it might be even fucking longer. Two more weeks of not being able to stand up straight easily. Two more weeks of barely being able to stretch my arms out without brushing up against the sides of the cabin.

Two more weeks.

I miss New Brooklyn. How fucked is that? I almost got teary when it disappeared over the horizon behind me eight days ago. Sure, I know I'm alone up here. I really fucking know it. But to be totally alone, unable to see the Hab, the one point of civilization up here?

Fucked me up, more than a little I won’t lie. I had to hit the brakes and talk myself through a few breathing exercise to calm myself the fuck down or just hyperventilate my way through a months worth of O2. When I fetched the RTG it got real small in the distance but I could juuuuust see it if I squinted.

Maybe I just thought I could see it. But either way, theoretically I coulda walked back to it if R2D2 crapped out on me.

But being totally alone, with no Hab to protect me if this goes to shit?

That's terrifying.

We never moved when I was a kid. Okay, sure, there was the whole time we moved across the country to Brooklyn, but I was barely more than a toddler and don’t really remember it bar making Ma’s life miserable by running around like a lunatic when she was trying to pack the apartment up. Until I moved into the dorms at NYU, 99% of my memories were of the one place. The same apartment, with its beige carpet that Ma steamcleaned religiously, the wallpaper dad put up when I was four and never changed, the same pictures of me and Becca lining the walls.

That might sound like Hell to some people. But to me...to me that was my anchor. I could go anywhere and do anything because that anchor was always there. I could travel the country, the world, fuck I could traverse the freaking Solar System because that home was always there. My world got bigger and bigger because I always knew I could go home, that I could open the front
door and the same scent of Pledge and potpourri would wash over me, Becca and Ma arguing over whether it’s ever acceptable to put barbeque sauce in lasagna – it fucking is, by the way and you’re welcome – and the sound of the neighbour still being shit at the drums and I’d be safe, I’d be protected.

I’d be at home.

The world changed and home stayed the same.

Now, though…

Now I don’t have that option. I can’t pick up the phone and pretend I’m calling Ma for advice on getting grass stains outta my clothes – a real fucking hazard when you’re in my lines of work – and she’ll know it’s really because I need to hear her voice, because I’m scared or unsure and I need my ma.

Life is scary in a way it’s never been for me before, and I don’t just mean the shit I gotta contend with as I try to blow myself outta existence.

All I got up here are my rovers and the Hab, and the only thing I can live in longer than a few days is the Hab.

And I just left that in my dust eight sols ago.

I feel like I just hopped off a cruise liner into a lifeboat in the middle of the ocean.

So I miss the Hab, and not just because it’s got all the live-saving tech my souped-up rover doesn’t. I miss the wide open space, the sweet 92 square metres of glorious space. I miss all the day to day shit I gotta do to keep everything running smoothly. I miss tending to my potatoes. I miss seeing something else survive up here.

I miss having physical labour take my mind off the yawning mouth of four more years up here. Behind the wheel, I got nothing but time to think about everything I’ve gotta do, everything that’s got to go right, everything I have yet to overcome in order to survive.

Sure, I’ve got Natasha’s sadly-not-porn books and Clint’s and Steve’s drives for shitty TV but mostly, I’ve been thinking about getting to Schiaparelli. I’ve been in here eight days and I’m starting to lose my fucking mind. It’s gonna take more than 6 times that long to get to Ares 4. I’m gonna need to take the Water Reclaimer and Oxygenator and probably some of the Hab’s batteries and as many solar cells as I can fit and…where the fuck is it all going to go? Even if it all fits, will there be room for me?!

These are the thoughts that plague me all the hours I’m awake.

Eventually I get tired and even that shit can’t keep me awake forever, and as anyone who’s travelled long distances, sitting on your ass all day is tiring as fuck. I lay among the downy softness of piles of food packs, water tanks, extra O2 tanks, piles of CO2 filters, bags of shit, box of piss and the few personal items I brought with me. I use a bunch of crew jumpsuits to serve as my bed along with my blanket and pillow.

Minus the one I change into when I’m sick of pulling an atomic wedgie outta my ass courtesy of my new ensemble. I think I’m starting to chafe back there. It’s a real danger.

I need to get out of this fucking rover.
I gotta go to sleep.

Log Entry: Sol 80

I’ve got no maps for this trip, and I’ve had to detour more than a little, but if the Universe can spare me just a little luck I reckon I’m about only 100km from Pathfinder. Alright, alright, it’s technically the ‘Carl Sagan Memorial Station.’ All due respect to my man Carl, but I’m the one about to steal it, I can call it what the hell I like.

I’m the fucking King of Mars.

Besides, Pathfinder landed on the day Steve was born – not just his birthday but his actual day of birth – and so I think there’s a kinship there. Steve wouldn’t mind me calling it whatever the fuck I want.

Seeing as how it touched down on the 4th of July, and the present I made Steve is pretty shitty, do you think that if I get back to Earth, I could get away with giving Sojourner to Rogers as the most epic of birthday gifts? I’m the fucking King, I can give my booty to whomever I choose.

I just re-read that. That was not what I meant. Why didn’t I ask Natasha how to delete parts of the logs? Why? Goddamn lack of imagination. I can hear Barton cackling over that for the rest of time.

Anyway…

Pathfinder went dark back in 1997 but before it did it transmitted for 85 days, along with Sojourner – it’s frankly adorable little robotic rover.

Yesterday I called Pathfinder a failure which wasn’t fair. It was actually a fucking awesome success, and beyond cutting edge when it was landed. It was the first time a Lander used the airbag technique – that is used to land every payload probe of the 14 unmanned missions that got my ass here – and survived its trip to return an unprecedented amount of data back to Earth after outliving its designed lifespan.

Kinda like me.

Except if NASA thinks I’m sending home an unprecedented amount of data’, then they can kiss my skinny ass. Even if this plan works, I am fucked if I’m sending data home just because those assholes would give their balls for the sort of opportunity of having me up here.

The last successful transmission was late September ’97. The team spent nearly six months trying to re-establish contact but Pathfinder wouldn’t answer the phone. In fact, it seemed to have packed up its shit and left without a forwarding address.

Don’t let anyone tell you that NASA can’t take a hint; the team gave up, were sent off to other departments and Pathfinder became an unanswered question. ‘What went wrong?’ Everyone was just more excited by everything that’d gone right with the mission – which, in fairness, was a fucking tonne – seeing as how it’d lasted so long.

Still, some of ‘em would probably love to know why their baby stopped speaking to them. If I’m successful in my attempts, I can tell ‘em. Shoulda put some money on the answer before I left. You don’t wanna know the sorta shit that gets bet on down at Sister Margaret’s.
Fuck.

Weasel’s probably got some shitty long odds on my being alive.

It’s gonna keep me all warm and fuzzy at night in this crap-shack knowing he’s gonna be paying out his ass on those bets.

Assuming I can get Pathfinder to quit its strong and silent routine and actually call home.

Anything could be wrong with Pathfinder. Getting to Mars is really fucking hard – something like two-thirds of missions fail. And it can be something real fucking small. We call ‘em ‘single event upsets’. A single stray particle of energy can pass through a chip in the Lander’s computer and cause a glitch, corrupting data, and destroying the electronics entirely. Getting Pathfinder onto the surface and transmitting back was a huge success. To keep it that way…unheard of. I told ya, I wouldn’t, couldn’t be here, without Pathfinder leading the way.

It – like the Hab, like the rovers, like me – wasn’t designed to last as long as it did. Its mission was initially 30 Sols, but it did 85 before going dark. The battery was always the odds on favourite for being the cause of death. The zinc battery was charged each day with the necessary 1,200 Wh from the 2.8m$^2$ of solar panels on the ‘petals’ of the Lander, and it was believed that after three times as many recharge/discharge cycles, the battery just couldn’t hold a charge anymore.

We’ve all had those days.

Or maybe the Lander got covered in dust and just couldn’t charge the battery enough during the day to last the night.

Doesn’t matter.

Whatever the cause, without the battery Pathfinder was fucked. The battery didn’t just power the Comms and shit, it also provided the charge to the heater which kept all the electrics at optimum operating temperature. Me and Pathfinder have a connection – we don’t do shit when brass-balling it.

It had solar cells and a rechargeable battery. It could be that that battery failed after the repeated charging and discharging cycles. The battery was required to power the heater to keep the electronics warmed to slightly above the expected night-time temperatures on Mars – fucking cold – so when that battery failed, the heater would have failed and that could have caused really vital shit to break. Without the electronics Pathfinder could no longer talk to NASA and NASA couldn’t talk to it.

Hey, I know that tune!

But now it has me. Me and my Jim’ll fix it ways.

I’ll have a friend!

I also get my hands on Sojourner, the cutest little rover you ever did see. Seriously, you oughta see the replica at Houston – it’s fucking adorable. You ever get those remote control cars for Christmas? Nana Barnes saved up all year for one for me and I fucking loved that thing. I drove it everywhere, as well as my ma up the wall.

Told you I was a big kid – I can’t wait to get my hands on it.

It should have stayed pretty close to the Lander. Sojourner wasn’t all that autonomous – it got it’s instructions from the Lander and then went off and did its thing, drilling rocks or scanning shit. Even
after the Lander died, *Sojourner* likely carried on for a while, a little lost, a little alone. *Sojourner* has its own solar panels, not reliant on the Lander for its power and so even after it stopped receiving new instructions from Houston via the Lander, it would have carried on with the experiment it was running at the time before entering contingency mode, either circling the Lander in the hope of getting new orders, or hunkering down and waiting.

Until it died.

I’m relating real fucking hard to a 34lb microwave-sized rover.

I don’t know how to feel about that, honestly.

But first, I gotta find the fucker.

Maybe for you assholes with your GPS and maps and ability to roll the fucking window down and ask someone for directions that doesn’t sound all that hard, but try having no landmarks bar the shit you name yourself, no maps, no GPS, no guides of any fucking kind.

Still think it’s easy?

It landed in Ares Vallis. Which is right in the middle of one of the rockiest parts of Mars.

Who thought that was a fuckin’ good idea?

I guess it makes scientific sense seeing as how they decided it was a pretty safe place to land and because of the huge variety of rocks that were deposited during what is believed to be a flood the size of the Great Lakes. Okay, sure, they didn’t expect me to come tramping through and bitching about the landscape, but still. Stupid place to land.

It’s the same reason as to why Ares 3 landed in Acidalia Planitia. The Hab site sits on the ancient remains of a long-gone river. If there were going to be microscopic fossils immortalised forever for Steve to get orgasmic over, Acidalia Planitia is where they’d be. Rivers drag rock and soil from thousands of miles away and dump it as it in its Delta – where the Hab sits - which would allow our team – with some back-breaking digging – to get a broad geological history of the area.

There was also the possibility of me, botany-boy, finding anything in the ancient silt to suggest plant life did or could possibly survive. With a little terraforming.

All of that is great for science, but shitty for my search for my new friend and doesn’t make my life any easier. Even when I ain’t blowing shit up, nothing in my life goes smooth. The two sites are around 500 miles apart. So, around the length of England, completely alone, in a rover that’ll only keep me alive a few days if shit goes sideways, with no maps. It is disgraceful how little of Mars has adequate signage.

I guess you’re wondering why the fuck I think I gotta take half the equipment in the Hab to Ares 4 but I don’t for a trip almost half that length.

Time.

I’m gonna be in the rover for at least 2.5 times as long as this journey. I’ll also be returning to the Hab. No Hab at Ares 4, it hasn’t even left Earth yet, and like fuck can I put that up by myself.

I’m good. I’m not that good.

From the time I get to Ares 4 to the arrival of the crew, I’m going to be living in the rover. I *could*
live in the MAV, but when I get there, it’s not going to be habitable. No oxygen, no heat, no
nothing. When I get in there and fire up the Comms, it’s gonna be in a suit. For a good while. The
rover is gonna have to act as a Hab until such time as the crew arrives and assembles there.

That’s why I need the shit from the Hab.

Short-term, with a return to New Brooklyn, I don’t.

But that ain’t the issue right now. The issue is getting to Pathfinder.

I was expecting to at least have an idea of being in the right damn ballpark when the terrain merged
from flat to rocky as fuck, but seeing as how it’s been that way since about sol 2 it’s a little hard to
tell if I’m on the Right Road Now or the Road to Nowhere.

Gotta thank Rogers for my roadtrip tunes.

Let me explain some shit about me. I have what has been unkindly referred to as – thanks for this,
Becca – directional insanity. Even if I had a map I’d be shit at reading it. Sure, I could pass all the
testing, but even as a Boy Scout, the Orienteer Activity Badge was never gonna grace my sash,
much to my dad’s disappointment. If I told you to go left at the end of a road, turn right.

More often than not during the Great European Exploration that Morita, Dugan, and I undertook, I
drove whatever beat-up piece of shit we’d been able to afford to hire. Because I can’t navigate for
shit. I got us so lost in Paris once I ended up calling Becca in New York so she could call the hostel
we’d been staying at – Becca can speak French like you wouldn’t believe, while I can’t even
pronounce croissant properly according to just about every French person that’s ever winced like I
fucking stamped on their foot – so she could call Morita back and gave him directions to get our
exhausted asses back to where we could pass the fuck out after hours of wandering out through
numerous rues and districts and Parisians that didn’t have the time or inclination to help a group of
American tourists that could barely ask where the fucking bathroom was.

What I’m saying is, that I ain’t exactly off to the best of’ starts.

But I got a couple things I can work with.

The Hab is one of the few things I know the exact location of, down to the fucking inch. I can use
its navigational beacon to determine where I am in relation to it. But of course its reach is only about
40km. So I turned to another part of the Hab: its computer. It has lots and lots of beautifully detailed
maps, at least for a tiny radius around the site so I figured I could navigate via landmarks for at least
that far, get myself in the right direction, and hope like fuck.

Not when there aren’t any fucking landmarks to follow.

It kinda goes like this:

Oh, look a rock! I go straight at the rock and then I go around this crater that looks exactly like every
other crater and then I hang a left at that other rock…

You seeing the problem?

When I get closer, and am past Niliacus Lacus – which is super fucking fun to say, by the way – I’ll
hit a crater field that I’m gonna have to navigate my way through, that I do know. One of ’em even
sounds like Dugan named it – Wahoo.

I get to Wahoo in the Chryse Planitia – and fuck knows how I’m gonna know that – and when I hit
that cluster of craters then I’m on the right path to being within a few miles of *Pathfinder*.

It’s just *getting* on the right path.

The irony would be hilarious if I had a sense of humour right now.

So, how does a directionally challenged moron navigate across Mars?

First, he curses the asshole that decided directional gyroscopes weren’t a necessity in the rover because ‘*nobody will ever need to go further than the Hab beacon can transmit*’. A DG would have been real fucking useful.

So, no maps, no landmarks. Even if I rigged one up, a compass would be useless – no polar fields on Mars – and so I have returned to the navigation of old.

The heavens.

More specifically, celestial navigation.

Or a version thereof. The stars, and their constellations, appear, for the most part, pretty similar up here as they do to some kid in Nebraska. But there are problems using the stars for navigation. Mars’ north and south poles are orientated differently, so the constellations take different paths across the sky. There’s no North Star because the north polar axis points at a dead point in space between Deneb and Erakis. There’s also no South Star.

Lucky for me, just like Earth, Mars has a friend. Two of them, and I can use *them* as a crude compass.

Mars has two moons, Phobos and Deimos. We named the planet after the god of war, did you really think that we’d name its moons after the virtues? Nah, humans are dramatic little shits. We named them after the sons of Ares – Greek god of war, keep up between the Roman and Greek gods – Fear and Terror.

Fitting that the sons of Ares help this son of Ares get the fuck home.

More fitting that the son of Ares filled with panic and dread follows them.

Phobos zips by so fast, and is so close to Mars in comparison to Deimos – it’s about 2.5 times closer and because it orbits Mars faster than the planet itself rotates this kinda sucks for it, seeing as how tidal forces are decreasing its orbital axis and its gonna get ripped apart one day - that it rises and sets three times a day, west to east, whereas it takes 1.3 sols for Deimos to orbit. It’s possible, and I’ll deny it to my grave, that I spent most of Sol 2 of my epic adventure reworking and singing ‘*Beauty and The Beast*’ to accommodate the moon rising in the west.

Got a rounding applause from the battery alarm when I perfected it so I think it was a hit.

Sure, it ain’t the most accurate of navigational systems but barring GPS, it’s what I got. Phobos and Deimos are predictable and I like predictable, my college girlfriend notwithstanding. I know when either moon is going to rise – I know to the *minute*. I know *where* they’ll rise. It’s actually a little easier to navigate with Phobos than it would be the Moon back on Earth. Phobos appears to travel through each of its phases – like the Moon moving from waxing to waning – each time it travels through the sky. The Moon’s different phases take much more time and between that the seasonal variations, the Moon is actually a really poor guide.

Phobos on the other hand. I’ve got faith in him.
What choice do I have?

Besides, sailors navigated by the stars for centuries, and it worked just fine for them.

The first person to point out that Columbus thought he was in India when he stepped onto American shores will get a kick to the body part of my choice.

I have become a trainee Space Pirate – I’m gonna navigate, have been navigating using dead reckoning. Using the distance estimated to have travelled, with the direction of travel, you figure out where you are.

I can tell you I’m on Mars. I’m in the Northern Hemisphere, and I’m in excess of 20km from the Hab.

I’m a fucking font of information.

Where am I in relation to the Lander?

Ummm…closer than I was?

It got easier on Sol 75 when I reached a valley with a rise to the west. It had a lot of nice flat ground which made my battery time/miles travelled more efficient and I could just follow the edge of the hills. I’ve dubbed it ‘Rogers Valley’ after our Commander, because he’d have gone nuts for this, geology nerd that he is.

Or, more accurately, I named it for the slope of his ass but I’m thinking the geology explanation is gonna play way better in history books if this shit ever gets found.

In my defence, have you seen his ass?

Maybe during recharge, I’ll go find him that pretty rock I keep promising to find him.

It’s gotta be perfect.

After three days, I left Rogers Valley behind which left me without references so I turned me attention to Phobos again.

Anyone fucking points out that Phobos is the god of fear…

Today I came across a crater. It’s small, only 5km, and so overlooked it probably doesn’t have a name – but I’ve affectionately dubbed it Shelbyville after my birth town seeing as how if this plan works, I’ll be born again as it were - but now I can see it, I know just where I am. I can navigate by it tomorrow, head to the larger Hamelin crater; I’m in good shape now.

I’ve reached the beginning of the crater cluster.

Do you know how that fucking feels? If I’m right, I’m within a couple sols of my destination. A couple sols away from getting Pathfinder.

Lemme repeat that.

I’m a couple sols, at most, from getting to Pathfinder.

Its something like a buffet after starvation, a hot bath on a cold day, a day spent in bed, a week straight of sex, and yet also pure gut-wrenching, ball-clenching, stomach-churning terror.
That’s sort of what it feels like right now for me to be so close to *Pathfinder*. The craters are all that separate me from the rough area of *Pathfinder*’s landing site. If I’m lucky – and what do you think sorta odds Weasel would give me for that ever happening – it won’t be all that hard to find the Lander. It ain’t small and it’s unlikely that in the relatively short time between 1997 and now – in geological terms a few decades is barely a blink of an eye – not enough dust and dirt should have accumulated to cover it over seeing as how unfurled it’s five feet tall.

It ain’t impossible, but chances are, the Lander should be at least partially visible. Please, *fuck*, let it be visible.

I’m parked up to next to *Shelbyville* crater now and having gotten the cells out for their daily sunbathe, I’m gonna have a root around for a rock for a few minutes before getting back into the rover.

I’ve got 12 hours of sitting around to hurry to get to.

And some more tears to shed.

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**Log Entry: Sol 81**

Only 22km until I meet my new friend!

Almost got there today but not quite.

As the small crater faded in my rear-view, Hamelin came into sight and I’m well into Ares Vallis now. You know how I bitched about how non-Kansas-y Acidalia Planitia turned out to be? Well my balls haven’t been this abused since Sara Quinn. While larger space trash made the larger craters on impact, they’re relatively easy to avoid, but rarely does space shrapnel travel alone and the ground *around* the craters is pitted and uneven from smaller projectiles impacting. It makes driving a chore, and even more tiring, having to be extremely vigilant about where I’m going.

My left arm is on *fire*. It does not appreciate the vibrating and the bouncing and the lack of shock absorbers and it ain’t shy about telling me about it. Thank fuck I brought the sling and a few analgesics.

Don’t drive under the influence, kids. I got no choice but I’m being careful.

Which translates into I’m driving like a granny.

The terrain is also reducing the distance I can go with each battery. A few days ago I could pretty much go a straight line, but now I gotta drive around shit or risk the suspension. Thankfully I’ll reach *Pathfinder* tomorrow and then I can turn tail and get outta Dodge. Even a few days of this is hell but the majority of the trip to Ares 4 is gonna be like this. It’s *exhausting*.

Better get the practice in now, huh?

The return trip should be faster too. I’ve gotten lucky with the weather, no big storms, and so my tyre tracks should hang around the next few days so I should be able to navigate back to Rogers Valley using them. Then I follow that for a few days. Once outta there, my tracks’ll likely be long gone but Phobos is a constant.
Don’t fail me now, moon.

I took another small walk today after I set up the solar cells – I’m not totally insane, I kept the rover in sight at all times because I ain’t getting lost out here – and it’s a real trip.

I know I have to preserve my filter time, I know that, but I’m within hours of my goal and I gotta get my ya-yas out. It ain’t just the joy of being so close, not just to Pathfinder but also to being able to head back to the Hab and all its glorious space. It’s fear.

Maybe I’ve spent too long staring at Phobos.

I’m terrified that this’ll all be for nothing. I’m pretty sure now that I can find Pathfinder. I know that I’m in the right place. That’s not the problem. I’m terrified that whatever is wrong with it is more than I can fix. I’ve got tools, I got a lot of tools, but I don’t got the sorta fine, delicate tools for getting right into Pathfinder’s guts. If it ain’t what I’m praying it is, that the battery is fucked, I don’t know if I can resuscitate my new friend.

Back when I could still talk to NASA any tool that I needed that I didn’t have, I could print. We got a 3D printer stashed in the Hab and Houston could send the schematics in the data dump and whatever tool I needed or had damaged, I could print.

In order to get those schematics, I need Pathfinder to work. In order to get Pathfinder to work, I might need those schematics.

See the terror?

So, yeah, I blew a little filter time. Sue me. Not driving myself crazy sitting in the Rover failing to calm down to the dulcet tones of Rose, Blanche, and Dorothy is worth it.

Besides, I think I’m half fucking crazy anyway.

Why?

Earlier, I’d swear I was being watched.

Yeah, yeah, laugh it up, but it’s true. I’d just finished changing the battery leads over, and just as a little dust squall swirled around my ankles, it was like ice down my spine and the hairs on the back of my neck stood up so hard they hurt.

I felt observed.

You know that feeling you get when you know someone is watching you? Like your skin prickles? It was like that, ridiculous as it was. If anyone had been watching me, they’d have gotten a kick out of watching my spin around like a top – there’s no turning my head in my current ensemble.

But even knowing that nothing and no-one was around, I couldn’t shake of the feeling that someone’s eyes were on me the whole time, watching my every move. I argued with my paranoia as I watched the dust dance around, and a small part of my brain expected it to coalesce into a form, into another hallucination.

Into Gary-Fucking-Sinise complete with spacesuit.

You see why I need some freaking exercise? I’ve spent too long cooped up in R2D2, cool as it is, and I need to move around, watch a sunset, climb a hill, throw a rock or two.
Which is itself something of a mindfuck.

Everywhere I go, I’m the first.

Bucky Barnes.

First person to walk in this crater – me. First person to kick that rock – me. First person to dance around – me. First person to drive long-haul on Mars – me. First person to spend more than 31 Sols on Mars – me. First person to grow crops on Mars – me.

Me, me, wonderful me!

Did you know, that once you successfully grow crops somewhere, you’ve colonized it?

I’ve colonized Mars.

Thing is, I shouldn’t have been the first anything.

I was the $5^{th}$ guy outta the MDV, making me the $17^{th}$ person to walk upon the surface of Mars. You don’t get a say in when you egress. Our order was determined before there was even a crew. Years before.

The order for Ares 3 was Rogers, Thor, Barton, Nat, me, Sam. It was determined to break the two top members of the crew up to first and last. As Commander, Steve led us out onto the surface, and just in case some undetermined fate befell him, Sam bringing up the rear ensured the crew had a pilot and a leader to continue the mission. Nat, being our computer genius was fourth for the same reason Sam was last – she’s important, so in case some shit went down, she’d either still be in the MDV when it did or would be able to get back to it fast.

I was fifth because I was least important as a payload operative.

Rumour is that Ares 1 and 2 had raging arguments over who was first onto the planet. Let’s face it, societies remember the names of the first person to do anything, they don’t give much of a shit for second or third. Maybe if pressed they could give a few names, but ask them the fifth person to step onto Mars and you’ll get as blank an expression as if you asked them to solve P versus NP.

Unlike some, I didn’t give a shit about my number, I was on Mars.

Back on Earth, when we all passed training and were announced on the team, we got our Mars numbers tattooed.

You don’t gotta ask if it was during the night of the Howling Commandoes because of course it was.

What is the point of drunken revelry without waking up with a new tattoo?

I think it was Clint’s idea. Sounds like it was his idea.

Yeah, my memory is fuzzy.

We mighta been not sober at that point, even if it was pretty damn early in the night.

I do remember that Wilson, the big bird baby, almost rocketed out of the chair. He’s flown in warzones, he’s been shot down, he’s been shot, stabbed, put in the centrifuge – which is basically evil – and fixed an MDV control panel failure while being spun upside down in a simulator, was scared of a tattoo.
Actually, I think he was scared of what his momma was gonna say. Or of the pain. It was hard to tell, he was just kinda screaming loudly but not articulately.

Natasha distracted him with her boobs.

They’re great boobs.

Okay, technically, I think she just sat on him to grab his face and talk him past the shouting and the attempted flailing that would have led to blowout city if the artist hadn’t backed off the moment Sam whimpered, but that basically put his eye-line right at her chest.

Either way, the big wuss sat nice and quiet.

And transfixed.

Clint wasn’t impressed.

If you’re wondering where mine is, it’s on my right hip.

Clint’s is on his ass. Because of course it is.

Natasha’s is on the top of her wrist, just edging onto the back of her hand, a delicate bracelet inked around her wrist, with her surface number hanging from it like a pendant.

Sam’s is on his bicep.

Thor’s is fancy, the number feeding into a really intricate, gorgeous Norse knot, and sits between his shoulder blades, arcing right across his back. He drew the whole damn thing himself, spent days pouring over it and we only went to the guy we did because Thor proclaimed the artist’s work to be worthy upon our skin, or some shit. I don’t remember but I do remember the guy looked thrilled to get to work on such a piece after the rest of us just got plain numbers. Or maybe he was just thrilled that Thor had his shirt off.

The man is ripped. It’s insane.

Steve’s is on the left side of his ribcage.

Artist tried to talk him out of it – it hurts like a mother and the skin there is thin, leading to blowouts if the artist ain’t careful, but he was determined. Sometimes I think he likes the pain.

Right next to his heart, the ole softy.

I better live or every time he sees that damn thing, it ain’t gonna be good memories that flash up in his mind.

I have excellent memories of him with his shirt off getting that tattoo.

You’ve all seen him, don’t fucking judge me.

Fuck, I miss my crew.

I really fucking miss my crew.

I really miss people. I miss talking to people. I miss my ma and my sister.

I’m fuckin’ excited about having a robot friend.
How pathetic is that?
Before you judge me, let me remind you of one other first.

I’m the first person to be alone on a planet.

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**Log Entry: Sol 82**

Victory is mine!

From one second to the next, there she was.

I was right.

I don’t wanna brag or nothing, but my calculations – which is a fancy way of me doing some hasty math based off the sort of build-up that the solar array at the Hab develops when I don’t clear it for a few days and then extrapolating it to an area far rockier over 30-something years because I gotta do something to pass the time— were right.

I’m completely bragging and I don’t give a shit.

There I was, trundling along, scouring the landscape feeling like I was in one of those whale-sighting boats, going cross-eyed from staring out at the rocks and sand, and then there it was, The Atmospheric Structure Instrument and Meteorology Package (ASI/MET). The wind sensors and wind socks are long gone, but the base remained, glinting every so faintly in the mid-sol sun, standing proud, as though a banner should be streaming in the wind to declare that here sat the first rover to land on Mars.

Most beautiful thing I have ever seen.

I’m not even going to pretend that I didn’t have to stop driving the moment I caught sight of the Lander to bawl like a baby. Part of it was the kinda joy that makes it feel like your chest is gonna explode, as though if you don’t scream at the top of your lungs and laugh and spin around like a lunatic you won’t be able to hold it all in. Because I fucking did it.

I drove around 500 miles without a map, without a compass, with only the fucking moon to guide me, searching for a thirty-five year old rover that could have been destroyed since it was last heard from, and I did it.

Against all odds, I found my path home.

But some of it was fear. Gut clenching, chest crushing, heart stopping terror. The fear of the unknown of what might be wrong with the Lander. Fear that I couldn’t make it work. Fear that even if I could, NASA could do nothing to help me.

Would do nothing to help me.

The last time I had that feeling so intensely was when Becca was born. I was the third person to hold her, before even dad. Ma wouldn’t give her up until I saw her, and when the nurse brought me in to see her, all the fear I’d had at seeing Ma in pain before dad took her to the hospital disappeared. Nobody could be afraid while their Ma looked so radiant. She’d called me over to the
bed, and dad helped me clamber up, making sure I was real careful not to hurt Ma. She had me sit up by her shoulder and told me how to hold me arms, and she placed Becca in my grasp.

I know now that she couldn’t see me when she opened her eyes when I whispered her name, that she was still so fresh out of the packaging that she was cross-eyed and could barely see past her own nose, but back then, it was like she was looking right into my soul. I had a sister. There was this whole other person like me, that I could show the ropes of life, that I could look after and protect.

When dad had finally taken Becca from me, I hadn’t known what to do with myself. I wanted to run and scream and tell the world that I was a brother even though I didn’t fully understand what it meant. I felt like I was gonna explode and Ma just laughed at me and called me her ‘sweet boy’. Nana Barnes came in then and took me out and the second, the absolute second I got out the front door to the hospital I screamed into the Brooklyn night that I was a brother, that I had the cutest sister in the world and I was gonna look after her forever.

But the second Nana got me in the cab I’d started to cry. What if I wasn’t a good brother? What if I didn’t protect her? What if I couldn’t keep her safe? I was a big brother now, I had to be so much better than I was or someone, something, might hurt Becca and it’d be my fault.

Guess that wasn’t just the ramblings of an over-tired five year old. I have hurt Becca, and I don’t mean the whole embarrassing her in front of her dates or the screaming matches over mirror time. I ‘died’. I died and I left my family alone.

That delight and terror I felt the night Becca was born, that’s the closest thing to what the fuck was going on with me when I caught sight of the ASI/MET.

I set off this morning in the pre-dawn gloom, anxious to be underway, but even though the rover tops out at 25kph and I was pretty sure I was within 20-ish kilometres of the site, it took me almost three hours to reach Pathfinder which gave all those butterflies in my stomach time to multiply. Back when the Lander first touched down, in Mission Control, a bunch of those involved with the project were loudly amused at how the rover guys were gonna be shitting themselves at having a real test of driving over the rocks and terrain.

Okay, the word they used was ‘nervous’, but give a fella some licence.

My rover might be bigger than Sojourner, but I’m no less shitting myself about damaging R2D2.

Or, y’know, driving over Pathfinder.

Once I caught sight of Twin Peaks, I knew I was in the right neighbourhood. I’m gonna give y’all the benefit of the doubt and assume you’ve all seen the pictures from Pathfinder. Specifically, I’m talking about the first panoramic that was returned home. The two small hills – they’re real titchy, barely 100 feet high but size ain’t all that counts - were about a kilometre from the Pathfinder landing site.

Twin Peaks are themselves, regardless of their proximity to my lifeline, real fucking interesting. Especially for all you conspiracy theorists out there. For decades, it’s been debated how the peaks were formed – the rest of the valley is pretty fucking flat, which is why such small hills look enormous. They’re the tallest formations, in fact, for hundreds of miles. Most of Rogers’ nerdy colleagues argue that they were formed through volcanic activity, which Mars had a limited amount of way back in its past, but most of that has been determined to occur in a region about 2,000 miles from my current location.

Lemme guess, you don’t think this is interesting.
Well, fuck you. I was a few miles from my target, having to drive like a fucking snail because of the craters and rocks and dark, so I was trying to take my mind off the whole joy/terror thing I had going on.

But you’re right, volcanoes ain’t that interesting. Explosive, yeah, but otherwise not my jam.

Nah, what’s fun is the conspiracy theory reasoning for the Twin Peaks.

We’ve had Space Pirates and Space Huns. Now open your heart and mind up to the Space Pharaohs.

I know what you’re thinking. You’re thinking, ‘I’ve seen this movie and the TV series that followed.’ Yes you did, and they were fucking awesome, but that doesn’t stop the fact that there are whole websites back home entirely devoted to the belief that the Twin Peaks are actually pyramids.

That’s right, the Goa’uld built pyramids on Mars.

Or at least some people believe someone did.

What only solidifies this belief is a large rock or outcrop that in some photos might look sorta like a Sphinx, complete with headdress and temples, sitting a short way from the base of one of the peaks.

The Great Martian Sphinx…

Fucker better not have any riddles for me to finish my quest or I’m gonna lose my mind.

An argument could be made that I already have.

I could, theoretically, determine the truth once and for all, but I ain’t gonna.

One, the people that are determined to believe shit like that are never gonna believe footage filmed by a ‘dead’ man. Although it’d be an interesting conundrum for ‘em. Some of them have to believe that I’m alive or how dare they call themselves conspiracy theorists? So, you’d think that they’d believe anything I have to say. But on the other hand, they probably also don’t believe I’m on Mars anyway so…

Two, it’s way more fun to leave people guessing. I’m an asshole, what can I say?

As I picked my way around sharp-edged rocks and the hazards of the pitted terrain, I even briefly entertained some thoughts of trying to find Barnacle Bill. Maybe even Scooby Doo.

For people over the age of four and not complete nerds, those are the names of rocks not cartoon dogs. If you’re ever wondering about the sort of sense of humour of the average NASA space nerd, look no further. I ain’t kidding. They named rocks shit like Pooh Bear, Pop-Tart, Stimpy. Because that’s how space nerds roll.

No, I didn’t get laid in High School, how’d you know?

In my defence, I don't think any of the people that named those rocks did, either. Ask Geoffrey Landis, he started it. The International Astronomical Union's Official Martian Naming System - oh yeah, that's a fucking thing that exists - states that anything smaller than 100m across doesn't get an official name.

Which gives rise to a lot of stupid names.

Why do you think I can get away calling everything whatever the fuck I want? Okay, chances are
that it ain’t like anybody is gonna know, but also because I motherfucking can. Shit, if I survive, I’m gonna see how much shit I can actually name up here, get it into usage down at NASA.

Better not name any more shit after Rogers’ ass then.

Which is a cryin’ shame.

Space nerds…what can I say?

I headed to the Peaks and bam, for once on this fucking planet, something was where it was supposed to be.

Sort of.

Pathfinder isn’t quite where it was intended to be, but landing within 12 miles of target is really fucking impressive for an unmanned vehicle, especially when you consider most Mars rovers don’t land at all. They crash.

When Pathfinder died, there was one objective that was unfinished which would have helped me the fuck out – the Super Pan, a high-resolution 360-degree image of the landing sight. It would have given me a much better idea of where the fuck to look, but when communication as lost, the scan was only 83% done. Sure, other panoramas were complete but not nearly as detailed or clear.

Working off a partial image I last saw about five years ago, it took me roughly an hour, driving so slow I’m pretty sure ancient snails would have left me in their dust. I stayed in the rover because the added height, and near 360 degree vision was a hell of a lot more convenient than the limited vision in a suit.

Also, I didn’t wanna get into the suit.

Pathfinder is gorgeous, and I ain’t just saying that because it’s gonna save my life if I can convince it to work. What the Taj Mahal is to architects, Pathfinder is to space nerds.

Or at least this space nerd.

It consists of four ‘petals’, large somewhat-triangular panels, three of which are covered in solar panels and the fourth forming the base. When she landed, the petals were folded in to form a tetrahedron protecting the antennae, panels, ASI/MET, Imager, and everything else important and delicate. Luckily, Pathfinder came to rest, after bouncing about fifteen times up to fifty feet in the air – you try hitting the ground at 31 miles an hour while wrapped in airbag-cushioning. Seriously, Google it – god I miss Google – it looked pretty funny, that this game-changing 175million dollar Lander was wrapped in balloons. A couple hours later, those petals deployed and waited for the sunrise, and history was made.

The Lander portion is immobile, obviously, while Sojourner, as the name suggests, could trundle around and poke at stuff, kick around a little and go for little trips. Basically a little interplanetary hooligan. It made a bid for freedom on the second sol of the mission, making off down one of the two ramps off the base petal and got down to the serious business of science.

It positioned its alpha-proton X-ray spectrometer (APXS) down into the dirt and hunkered down for ten hours of non-stop scanning excitement.

I’m not the only one that take a lot of time to run experiments. But while I am all about saving my own skin and fuck everything else, Sojourner provided information that’d inform and improve rovers for the next thirty years.
Show off.

Still stealing the cute bastard though. If the rovers are my dogs, *Sojourner* can be my lil puppy.

You think it’s housebroken?

As is my right as King, I’m taking both parts, but *Pathfinder* is the most important.

It’s the part that speaks with Earth, which *Sojourner* can’t do. But that doesn’t mean it’s useless.

Far from it, if I can get it to work.

I fell out of the rover with how excited I was to see that damn thing. The airlocks on the rovers are like damn knee-knockers, you gotta be real careful getting in or out or you’ll fall on your ass. Or your face, as Cho so wonderfully demonstrated our fourth week as AsCans. The dentist did an awesome job though, you’d never know she broke one of her upper canines. Damn near shattered it, actually.

I wasn’t anywhere near as dramatic.

For a change.

I was able to catch myself as I plummeted towards the rocky ground, ensuring I didn’t smash my faceplate in my hurry to meet my new best friend. You’ve no idea how happy I was to finally be there. I’d been up half of last night worrying about getting to the site and there being no Lander.

I don’t know who I thought would have made off with it. Space Pirates? Pissed Martians that were sick of us dumping our shit up here? The Goa’uld? Whatever, the Lander was the most perfect thing I’d seen since I first re-planted my potatoes, and that was with most of the panels buried under red dirt.

*Sojourner* was a little harder to track down after I hauled myself to my feet from where I landed on my knees next to *Pathfinder*.

It took me about five minutes to stop feeling her up like it was our third date, brushing the dirt off the petals, and gently examining the Instrument Electronics Assemblies, though I kept my hands to myself with that. My hands were shaking so bad that if I touched anything delicate I was gonna crush it.

Unlike the Lander, *Sojourner* had been buried, the rover being much smaller, crouching low over its rocker-bogie – Clint tirelessly refers to the system as rocker-boogie and the little dance he does every single time he says it, is weirdly adorable in its own way -suspension system so it was far lower than its 12 inch full height.

*Sojourner* had been working just fine on the 27th September 1997 when contact was lost, and had been instructed to remain stationary until the 5th October, which would have been Sol 91 of its three hour tour supposed 31 day mission, when it was to circle the *Pathfinder*.

Guess the little guy woke up, even after *Pathfinder* didn’t, and circled the wagons until it couldn’t anymore because after doing my best impression of *Pluto* 4 and walked in a spiral around the Lander, I finally found it.

If you think I walked straight into it, you got it buddy.

Thank fuck for spacesuit boots and their protection from stubbed toes.

Fortunately it was a pretty glancing blow, and it ain’t like I need its XPRS anyway. Carrying it carefully
– could you imagine explaining to a buncha people that you broke their cute rover after they worked so hard and got it onto the surface of another planet in one piece? – and with no small amount of swearing and grunting – it might not be all that big but it weighs a fucking tonne for its size and my arm is pissed the fuck off by the bumpy ride - I placed it in the rover cabin to examine later and headed back to check out the Lander.

*Pathfinder* was more of a problem. It’s large. It’s bulky. It’s heavy. And it wasn’t gonna fit through the airlock of R2D2. Time for Farmer Bucky to become Engineer Bucky.

The first thing anyone at JPL will tell you is that probes are delicate little creatures, and need to be treated with respect and care. And neither you nor I will ever tell ‘em I mighta kicked *Sojourner*. Probes are kind of like eggs that cost millions of dollars and that you strap to a bomb, hurtle through space and want to gently land on another planet with little more than balloons and a parachute to break the fall.

It’s kinda like the grown-up version of the physics experiments we all endured in high school where we had to work in pairs or teams and protect an egg from smashing when we dropped it off the top of a ladder.

All the kids that rule at that experiment totally work at JPL. I only met Banner a few times, but steadier hands you ain’t gonna find. Do not challenge him to a game of Jenga. The only way you’ll win is if someone – and Barton or either Wilson will do a pretty good job but Stark is best – pisses him off so much he sweeps the whole thing off the table and storms off.

Sometimes he’d even flip the table.

The take away from this is that probes are delicate and require a gentle hand. So when I took a crowbar to the hinges of the three panels, they popped off easy as anything. I briefly wondered if I could do the same thing with my arm, but all I could do was head into the cabin and throw back a Vicodin before getting back to work.

Y’know how I said I needed some exercise?

Hauling this bad boy onto the roof of the rover wasn’t what I meant.

So I ain’t gonna.

Don’t go get your panties in a bunch, I ain’t leaving it here. I’m just letting the rover and its doo-hickey do the job for me.

Always Be Prepared, that’s the Boy Scout marching song, and I might be directionally challenged but I prepared for this shit.

For some reason you can’t drive the rover with a doo-hickey in place at the Interface. I guess it’s some sorta failsafe that we can’t damage the Interface or a doo-hickey with our reckless driving so while I was getting the horse tablet, I also grabbed the mini-crane, a huge tarp, and every strap the Hab could spare.

When I was a kid, everyone knew which presents under the Christmas tree had had the dubious honour of being wrapped by me – they were messy as hell and to make up for what they lacked in aesthetics, they were covered in sellotape. There wasn’t a spare inch to try to rip into. Ma and Becca still take the piss outta me every year, inspecting every gift for being held together with tape.

I’m real good now at wrapping now, but I’m gonna need to draw on all my former prowess to safely bind *Pathfinder* and lift it up onto the flatbed. She’s an elderly lady and my ticket home, I can’t risk
dropping or damaging her.

If that means wrapping her up like brown paper package tied up with string, well it’ll just be one of my favourite things.

The two longest straps I laid out in an X formation before spreading out the tarp on top, right next to *Pathfinder*. I intended to push/pull/wiggle the Lander into the middle of it and then wrap it up in the tarp like a wine bottle, attaching the hook of the mini-crane through the fastened straps.

That was the plan.

However, when I went to lift the central panel to steal the probe away before the space pirates took it, I couldn’t get the fucking thing to budge.

I accepted that maturely and with scientific consideration.

I kicked a few rocks just to see how far they’d go.

Couldn’t the universe just let me have that one?! Couldn’t one thing be easy? I piss in a box every morning, throw me a damn bone! Why is the thing so freaking heavy? Weight isn’t supposed to be a large portion of probe development. By the time she trampolined her way across the surface, *Pathfinder* should have weighed a little over 800lb. In Mars gravity, I should have been able to move the base petal at least a little, despite one arm having crapped out on me. But even hooking both hands under the edge and hauling upwards resulted in nothing apart from blinding agony and liquid fire running down my left arm.

It wasn’t until I tried to pull my hands away that I realised why.

While the parachute that opened a few minutes before the Lander touched down was detached moments before landing, whipped away to God knows where, underneath the base petal was a set of the balloons that shielded *Pathfinder* from becoming a pancake. Back in ’97 although the Lander ended up on its base petal, when the petals moved to open there was resistance and images showed the deflated airbags were blocking deployment of the petals and the rover’s deployment ramps. Mission Control used the petal deployment motor to lift the petal up off the ground, retract the airbag and then lower the petal again.

Sounds easy, right?

It is.

Or it was for the team back then, at least.

It’d never been proposed as even being possible and yet it worked, the ramps could lower. But that retraction is what caused me to fall on my ass – literally – when I tried to pull the base around. In the years since it’d landed they airbags had ripped open – a result of decades of high winds and sharp rocks and filled with sand. *Pathfinder* I can lift. Those sand-bags, not so much. My left arm was already tight and aching from the driving and the bouncing and the basic lack of any comfort of my sleeping quarters and there was no way it was gonna hold up to trying to shit half of Mars around.

To cut them off I’d have to dig them out and sure, that wouldn’t be hard, but the other three panels are in the way and weighed down themselves. But I don’t give a shit about the condition of those panels.

And I have a rover.
My rover ain’t fast, but it is in possession of some awesome torque.

Fast and the Furious: Mars Drift.

Using one of the straps, I tied off one end to one of the turrets of the Chariot and the other to one of the panel rods, hopped into my ride and floored it. The panel came away with barely any resistance.

Delicate, remember?

Took me only a few seconds to do tens of millions of dollars of damage.

I’m gonna get a reputation.

Once that panel was popped away from the Lander like a cork, I got back to nature and dug out each balloon and cut it off. My planet for a fucking backhoe. I really hate the asshole who decided Ares 3 didn’t need one. Gotta be thankful I was a Boy Scout though – even though I didn’t think the Lander would be buried, I brought a shovel and my modified dinner tray.

I love those fucking trays. I oughta let NASA know they’re multi-purpose. I got one as a lap-desk, one as a crude shovel and I’m using another couple taped together as a pool table back in the Hab when the actual table is too buried under shit that keeps me alive, leaving no room for the shit that keeps me sane.

I shoulda packed another one – I coulda driven over to Twin Peaks and found out if a food tray would make an okay sled. I could have ripped my suit or damaged my faceplate, but let’s face it, sledding would be worth it. Some of my favourite memories from when I was a kid was trooping through Central Park with my dad and Becca – Ma being far more sensible and taking the opportunity of her hoodlum children being out to have some R&R, luxuriating in the quiet by having a hot bath with a good book while we froze our asses off. It’s hard to tell who was having more fun, us or Ma but I think it was probably Ma.

Especially that time Becca took a header off the sled when it hit a pipe under the snow, she and the sled rolling together down the hill until they came to a stop at the bottom in a heap. Pretty sure I didn’t breathe the whole time I was running down the hill, sure that I’d find her dead.

I keep tellin’ ya – I was always a dramatic shit.

Becca was fine, laughing her ass off when I finally reached her side, dad puffing along behind me. I didn’t wanna go sledding the rest of winter, which Ma wasn’t thrilled about.

I wasn’t all that thrilled to be digging again. Pretty sure a botanist bitching about dirt is sacrilege, but after digging up twelve tonnes – it mighta felt like four but I still had to excavate the same volume as twelve so it fucking counts as twelve – I’ve kinda had enough of it.

Enough for my whole life.

My arm has had more than enough, and I tried to keep it pretty immobile against my chest while digging with the other arm which slowed me down. It became clear pretty quickly that I wasn’t gonna be leaving Ares Vallis before the next day: while Earth, or at least the Northern Hemisphere of it, is still gonna be fending off winter, my new planet is starting to enter spring– I’ve been recording the hours of daylight and over the last few weeks the days have slowly been getting longer – but the days are still pretty short. Between the trouble getting the panels free and digging the balloons out, I wasn’t gonna get my new phone strapped up and ready in enough time to make any sense in starting to set back to the Hab.
Much as I want to be done with sleeping in a rover.

It was one thing to drive in the early morning gloom, in the knowledge that it was only gonna get brighter, but the other way around?

I ain’t that fucking stupid, all evidence aside.

At least, not with tens of millions of dollars riding my bumper.

After my fun ripping off a petal, and seeing as how I’d be spending the night there anyway, I decided to be sensible for the first time ever. The Lander needs a gentle hand, particularly the antennas and assemblies. Without the petals, all that shit will be exposed over hundreds of miles of dust and sand.

If I keep the other petals attached, even though I won’t need them for power – if I can fix the Lander, I’ll run it straight off the Hab and bypass any issues that thirty-five year old solar panels might have – they can act as an armour while we travel. I’ll strap the removed panel back into place too.

It took me over two hours – with a couple breaks because I’m a botanist not a fucking archaeologist and I don’t get off on digging – to excavate and extract each balloon. I had no idea how many had originally been attached to the Lander and every time I thought I was done, I’d reach around to make sure and discover yet another one.

I’m fucking surprised my knife didn’t go blunt.

I was starving by the time I stood up – fucking carefully because it’d been hours since I’d lost feeling in my feet – and brushed myself off. Waiting for the pins and needles to pass, I leaned against R2D2 and gave myself a pat on the back for doing such a good job.

A job so good I could still barely move the Lander.

I know what you’re thinking.

You’re wondering why I didn’t use the mini-crane to lift Pathfinder onto the tarp/strap ensemble.

So you don’t remember how I mentioned I was going to have to hook the mini-crane through the straps around the Lander once it was in the tarp? There’s nowhere to hook it into otherwise, no handy attachment to slide a strap through.

Shockingly, Pathfinder wasn’t designed like a fucking chandelier – I have to get her into the tarp and then I can lift it with the crane.

Or at least that was the plan.

My left arm was already shaking despite having little to do with the great balloon massacre, so after folding in the ramps – which, seeing as how I was pushing against the mechanism was so hard I almost snapped ‘em off, took a lot longer than you’d think – and the remaining petals, I headed over to R2D2, needing five minutes away from my helmet.

Or five minutes away from the Lander.

Five minutes turned into ten, turned into fifteen before I carefully reversed R2D2 up as close as possible to the Lander. It was another five minutes before I could convince myself to helmet up and head back out.
I bribed myself with drugs and food.

Not the worst plan I’ve ever had, because getting the fucking thing onto the tarp was not easy and after about thirty seconds of it I was ready to throw in the towel. But I’d set a challenge for myself so…

I’m a competitive asshole. For fuck’s sake, you couldn’t have guessed that seeing how I won a spot on a mission to Mars?

After no small amount of time playing trial and error, I found a system that worked. I repurposed the tray-scoop as a lever – what the hell do they make these things out of because they’re stronger than diamonds and way more valuable – by stuffing it under the lip of the petal as much as possible, angled over a rock, and then step onto the tray, tipping the Lander up as much as possible – little more than a few inches, and then carefully, and quickly, while keeping one foot on the tray, I’d kick a previously selected rock under the edge of the Lander in the 0.03 seconds I had before it came crashing down because my weight ain’t enough to hold it up for more than a heartbeat. I’d then step off my little teeter-totter and pushed down on the petal there – and fuck didn’t my arm thank me for that- using the rock to balance the Lander’s weight mostly off the ground, and pivoted and jimmed the petal around that point until it inevitably fell off the rock. Without the sandbags it wasn’t as heavy as it’d been, but it was still a fucking Mars Lander and, sure, it was only one panel, but it was the one panel with the probe assembly on it and it probably weighed about 300kg on Earth. Even in Mars’ gravity that is a lot and I was already exhausted by the day’s excitement.

And the digging.

I will never stop being bitter about all the fucking digging.

I want that on my fucking gravestone if I get home.

I ain’t kidding. It’d be accurate as fuck, and hilarious for all the people visiting the graveyard that’d have to walk past my grave to get to their loved one. Imagine how many of ‘em would run away in fear of zombie astronauts digging their way out of their graves.

They don’t gotta worry. I done enough digging for any lifetime. When I’m toes up, I’m staying put.

By the time I got the Lander onto the tarp in roughly the right place, plus or minus a few wrinkles in the tarp and a few crushed toes, it was well into dusk and while I could have turned on the rover’s lights – it doesn’t have headlights as such but does have two light arrays on the roof that can be angled through 360 degrees because even though NASA didn’t want us driving after dark, it did realise that accidents happen and sometimes you need to be able to see after dark – and carried on going, it’d been a long ass day and I was tired, and my arm was starting to piss me off it was aching so much, so I headed into my home away from home to gaze lovingly at Sojourner.

I ain’t kidding.

I spread out – as much as possible – on my little nest, with a rolled up sweater under my lower back, because fuck me it all hurt, and let me head loll to the side to look at the little rover.

It’s still fucking adorable.

It seemed okay, none the worse for my kicking it. At least, it didn’t appear to have any physical damage on the outside and doesn’t seem to have gotten baked in the sunlight. It was too caked in compacted dust and dirt which had protected it.

If the Lander is the part that talks to Earth, I’m betting some of you are wondering why the hell I’m
wasting my time on Sojourner. I’m not gonna split up a family! I’m a lot of things, but I ain’t a homewrecker!

Okay, actually I really just want it for parts.

And because it’s two friends for the price of one.

But mostly I want it for the moving parts.

If I can create a link to Earth, I can communicate with NASA by means of the Lander’s Imager for Mars Pathfinder – because apparently the word ‘camera’ is beyond the naming abilities of some engineers - and some signs – I ain’t proud of this, and don’t go sharing it around, but I might have been taught flag semaphore by my Scout Master so, y’know, if it came down to it I could send a million pictures of the latest dance moves but that’d take five years to ask a question so it’s in the back pocket, yeah? - but that doesn’t mean they can talk back. They’d know I was alive, which would be a start but they couldn’t answer any questions I’d have, they couldn’t tell me how my family is, they can’t tell me when a rescue might be imminent. That’s because the Lander never needed to be able to show output. It got its orders and it just did them, it didn’t need to flash them onto a screen in case some wayward astronaut got left behind one day.

I gotta find another way to have them communicate with me.

The Lander itself only has two moving parts, the high gain antennae and the camera boom; the fewer moving parts, the fewer things to get damaged by moving – which actually is fucking fantastic for me and the rollercoaster ride we got back to the Hab. Remember how annoying your music skipping was when you so much as walked fast with a personal CD player? Huh. Maybe you don’t. I don’t know when this might get read. Will iPods even still be a thing? I used to steal my dad’s old cd player when I was a kid and it drove me fucking nuts when it’d skip if I started dancing.

If I took only the Lander, and was left with no other option, we’d have to devise a way of communicating through the rotation of the camera head.

That would not only be time consuming, it’d be fucking easy to make mistakes. There’s 26 letters in the alphabet, plus the digits 0-9, and some number of special symbols, you’re looking at less than 10 degrees of rotation per letter/digit/symbol and that’s real fucking small. If they’ve gotta tell me important shit, the risk of error is way too high.

It’s me. I’d fuck it up somehow.

But not with Sojourner.

Sojourner has six independent wheels that rotate pretty fast. Communicating with those will be considerably faster. If nothing else, I can write letters on the wheels and hold a mirror up to the camera. The eggheads at NASA would figure it out and then they’d spell at me.

Fucking slow but faster than the camera head.

Assuming I can make the Lander talk with Earth at all.

Just because I’ve got it, doesn’t mean I can make it work.

But if anyone on this planet can, it’s me.

Not to toot my own horn or nothing, but I’ve survived nearly three months alone on a planet that clearly wants me dead. The Lander will work. It just doesn’t know it yet.
Remember that optimism thing I had going for a while before my arm had me wanting to die and I got blown up?

I’m feeling a resurgence.

The Lander will work.

It’ll work because it has to. Because I need it to. Because there is simply no other fucking option that I’m willing to accept. I don’t care what I gotta do to make it work.

Today also had another accomplishment. Yeah, it’s overshadowed by the whole ‘I’m a Space Pirate trainee and I just stole a Lander’ thing, but it’s still the answer to a question that’s driven me nuts since about Sol 10 when I first noticed this weird odour.

Every time I came in from an EVA and struggled my way out of my suit, I always got this whiff of something like spent gunpowder – a smell I only know because of a team building exercise of skeet shooting (that Danvers won because nobody saw that coming) – and the brake pads off my motorbike. I fucking searched high and low for whatever it was in the rover that was smelling like that, because nothing good smells that way.

Today I finally figured it out.

I was right, nothing good smells like that.

Because it’s Mars.

That’s the smell of Mars.

It’s the smell of space.

Yankee Candle ain’t gonna make any money making a candle of that. Trust me.

Learn something new every day. Today’s education is fuckin’ useless, but hey, I’ll die knowing what space smells like.

You ain’t missing out.

I need to turn in. I’ll need to be well-rested to protect my loot from space pirates and my back, knees, and arms are fucking killing me. I ain’t kidding. They want me to die. I really miss the heat packets I had to leave at the Hab. I got no way to refresh ‘em in R2D2 so all I can do is strap myself into the T1000 arm without ‘em, and hope that it keeps enough of my body heat in against the muscle to do some good. Thankfully I was smart enough to think ahead and pack a small first-aid kit in which I included vicodin.

But even with the pain, even knowing I gotta get some sleep, I’m too wired.

It’s been a fucking long day, but I’m still not ready for it to end.

Worrying over whether all of this will even have been worth it ain’t gonna make getting to sleep any easier either.

But as I lie awake and stare at Sojourner I keep telling myself one thing.

Pathfinder has better luck than me. Against all odds it got here. It sent home data. It stayed alive three times longer than expected. She’s several hundred kilos of pure luck.
I just need it to live again.

**Log Entry: Sol 83**

Fuck me sideways.

Fuckity fuck.

Everything hurts.

Things I didn’t know I had.

Things I *wish* I didn’t know I had.

But the Lander is now secured to the flatbed and I’m back to lying on the bottom of the rover whimpering periodically and aching in places God really had no place creating.

It ain’t pretty, my packing, but it’s done. I even took it over the biggest bumps I dared and while I thought I’d shit myself the first few times – and rovers need fucking rear-views – I slowly unclenched and *Pathfinder* didn’t budge.

It took a little longer than I wanted, because when the fuck doesn’t it? When did I get so shitty at determining time management? I used to go to college and hold down a job and look after my sister. I used to be *awesome* at making sure shit got done fast as possible.

Now?

Now it takes me hours to put one thing in my truck.

That one thing is a heavy-ass rover that doesn’t *quite* fit on my flatbed requiring a lot of ingenuity – Tetris – and patience – lying down until my arm stops wanting to explode – and delicacy – not putting my fist through the fucking thing just because I’m pissed off.

Despite my belief that I’d not sleep, around 4am – according to the rover clock – I finally stopped staring at *Sojourner* like I wanted to paint her like one of my French girls, and passed out. Which meant I woke up a lot later than I’d have liked. I’m not making excuses, but I’ve kept some fucking strange hours since I left the Hab, waking before dawn to pack everything up, driving in the grey gloom and then hanging out in the cabin after the batteries crap out. No real exercise, uncomfortable as hell, surrounded by awful smells…

Reminds me of puberty.

You know those ‘if you could go back to being a teenager again, would you?’ questions? Just say no, kids. Just say no. I have gone back to that time, and it sucks.

When I finally staggered out onto the surface, the Sphinx had not risen up to come and pester me with riddles, which was nice. *As was Pathfinder* being right where I left her. We all know if the Space Pirates were gonna come and fuck shit up it would have been right on the cusp of me actually getting somewhere in my quest to get off this shitshow of a planet.
I took a leaf out of the Egyptian handbook though – I took to wrapping the Lander like a Mummy.

Or, more accurately, a model from a BDSM convention cosplaying as a mummy.

Does the BDSM community have conventions?

If their models would look anything like mine, they shouldn’t.

*Pathfinder* was trussed up pretty quick, once I wised up and strapped the petals together. I’d wasted an hour trying to reattach the third petal because without it, the other two wouldn’t latch up right, and every time I tried to start wrapping tarp, one of ‘em would fall down. Was anyone watching – and I’m fucking glad that the sensation of being watched has gone – it would have looked pretty hysterical, my running in circles trying to get the petals to stay up.

*Doing* it, wasn’t funny.

Reattaching wasn’t getting me anywhere, so I downed tools and turned to duct tape.

Like I should have done about five minutes into the charade.

Just creating a hinge with the tape wasn’t enough. Nah, I went to *town*. Christmas present wrapping fiend. All those years of frustrating beloved family and friends at Christmas was mere training.

Using much the same system as I did with the liederhosen creation, after reattaching the missing petal, I created a large tab for the top edge. By *large* I mean I spent five minutes making a cross-hatching of duct-tape about eight inches by twelve. I raised the opposite petal and stuck a five foot long strip to the side, about a foot down from the top, making sure to overlap it about a foot onto the petal. Then I levered up the sorta-attached petal, stuck the cross-hatch tab down onto the opposite petal and then grabbed the side strip from petal #2 and wrapped it around sorta-attached petal. I washed, rinsed, and repeated with petal #3.

God love duct tape.

Seeing as how I wanted to be sure, I then stuck the end of the duct tape to a petal and just walked around the whole Lander three times, wrapping duct tape around the whole time until there was barely any of the outer edge of the petals visible.

Okay, that’s a slight exaggeration, but I’m pretty sure that if you marched the guys that built *Pathfinder* into a room, and showed them a line up of space atrocities and asked ‘em to point out their Lander, not one of ‘em would point at the thing that looks like a last minute Halloween costume gone very wrong.

At least duct tape looks cool.

Then I got to the business of wrapping up the tarp.

I’d learned from the petals, and started by putting little tabs of tape onto each edge before I did my best origami. I didn’t give a shit about dust getting in – after 35 years what’s the point? – but I did want to ensure that if the straps slid around as my precious cargo bounced and zagged around, they couldn’t get up between the petals, damaging the precious shit inside.

Hence the mummification.

You think I’m gonna have to read the Book of the Dead to bring *Pathfinder* to life?

Would the Medjai take me back to Earth, you think?
The origami took me up until I broke for lunch, which was less about the half packet of sweet&sour chicken – made with cold water which was disgusting – and more about stopping to quell the burning ache in my shoulders and knees.

Fuck. What I wouldn’t give for a hot bath. Hmmm. Or a massage.

Let’s go crazy, seeing as I ain’t getting either, and offer up this planet for both.

I spent twenty minutes scratching around on my tablet – because I’m a sophisticated asshole – and worked out how best to attach the straps so as to provide a secure place to hook the mini-crane, and eventually gave it up.

Resin.

Knots slip and winches give. The resin won’t.

Good thing I packed a bottle of the stuff.

Boy Scouts. Take your kids, people. It’ll save their life one day.

Or just tell ‘em not to go to Mars.

Whichever is easier for you.

After my lunch, and a half Vicodin chaser I was fresh as a daisy, even if the inside of the rover is far from it these days, and I was driven back out onto the surface.

Seriously, how do I turn what I eat into that?

Fuck me.

It’ll be a relief to get back to the Hab.

And its floor covered in shit.

Maybe I’ll just move into the Funvee. Who needs heat or atmosphere when you have an entire rover that doesn’t smell of shit?

Back to work, I pulled the straps up and over the top of the Lander, cinching them into place. More trusty duct tape helped secure the straps to the tarp to hold their position. Then the resin. I painted it over the free ends of the cinched portions and then duct taped that down like some sorta monstrous aglet.

That’s a word.

Seriously, look it up.

You can now win every Scrabble game you play.

You’re welcome.

I gave that time to set while I fucked around with the doohickey and started scratching around in the dirt to trace out how I wanted to fix Pathfinder to the flatbed. It was gonna be a tight squeeze, but I figured between the straps, duct tape and resin, I could make it work.

I really hoped I could make it work.
If I couldn’t I was gonna have to find another way to transport *Pathfinder* and there was only really one way that would be doable. I’d have to put it on the roof. It’s not like I could put it in a saddlebag for fucks sake.

It was right when I went to hook up the mini-crane to the straps that my second wind started to fade and I started to waiver.

You’re such a lazy shit, Barnes, is what I’m betting you’re thinkin’.

Fuck you.

My arm still isn’t 100%, it’s not like I have a gym to work out in, I’ve been losing muscle mass for the best part of a year, I’m hungry most of the time, and oh, yeah, I’m doing this in a fuckin’ suit that weighs 20kg and makes hauling stuff hard because it limits your movement.

I might also have been letting my self-prescribed physio slide while living out of my car without the room to even *think* about swinging a cat, let alone actually do it.

Within 10 minutes of climbing around on the back of the rover, attaching straps to the railings I was panting. Within 20 minutes I had to take a break, sitting dejected on the floor leaning against a rover wheel like a marionette that’s had its strings cut.

At this rate I was gonna be out there for days building that fucking ramp.

So I did what any good person would in that situation.

I cheated.

I upped my oxygen mixture.

Don’t look at me like that, if Olympic athletes can do it, I can. They just want glory, I want to *live*.

Sure, I shouldn’t do it for a prolonged period, and I won’t – honest Ma, I won’t – but it helped more than you’d believe. I’ve never been more grateful for the heater in the suit not being able to keep up with how fast Mars’ temperature causes your heat to leech from the suit; if I’d been sweating like a pig the whole time I’d be twice as whiney as I am right now.

Consider yourselves lucky.

It took another thirty minutes to get the cobweb I was constructing done, and I turned my oxygen down again the second I finished, and then stepped back to admire my artwork.

There are many that could have done it better in terms of style, longevity and overall levels of cool, but my effort has its charms.

Like getting me one step closer to telling my ma I’m alive.

Not gonna lie, I might have shed a little tear when I flipped back the cover on the doo-hickey control panel and fired that bad boy up. Then again, it might have been exhaustion. I don’t think I breathed the entire time from the second the wire took the weight of the Lander until I rested my hand against its side to swing it fully onto the flatbed, lowering it down gentle as possible.

Holding the Lander in place with one hand, I grabbed one of the straps and instantly clicked that seat belt into place. Once I had both hands free I set to getting the rest of the straps secured. I wasn’t taking the hook out of the top straps until I was *sure* that *Pathfinder* wasn’t going anywhere.
I wouldn’t have taken the fucker out at all if I could make R2D2 go with the doohickey in place. Seems kinda fucked up that I can’t. With a long enough timeframe – and Natasha – I’m sure I coulda found a way to override that particular feature, but I didn’t have either so…

When I released the hook and the Lander settled I mighta pissed myself. It probably moved less than an inch, but to me it looked like she was gonna topple off the flatbed and crash to the ground, taking my hopes and dreams with her.

Sound don’t travel up here, not outside atmosphere, but I’d have sworn I heard *Chariot* groan under the Landers weight. The rover has a top payload weight of the rovers is 2,200lb. At takeoff *Pathfinder* would have been just under that, but even now she weighed in at 800lb and she ain’t exactly super well situated. Even knowing she’s underweight, I kept thinking R2D2 was gonna tip up, front coming right up off the ground.

Resulting in *Pathfinder* crashing to the ground again.

Sensing a theme?

It was as I was about to shimmy my way into the airlock – if ever there was a time for dancing, it’s right now – that I had a thought.

I was stealing a landmark. An international, interplanetary, landmark.

That sorta crime had to be recorded.

There’s not a lot a guy like me can manage with rocks but I did my best. I was decent at art when I was younger, but I was a pencils guy. Maybe I could be pushed to a little work with oils, but I was all about the sketching.

Statuary?

Not my thing.

So I did my best with what I had.

Which was rocks.

Lots and lots of rocks.

I tried to figure out which rocks had sentimental value to the guys back home. Don’t think Landis would forgive me for fucking around with Yogi or Pyramid.

I know what you’re gonna say, a rock is a rock is a rock.

Shut up.

These are some of the most famous rocks in the world.

Fucking around with them is like taking Washington’s nose from Mount Rushmore and using it as a doorstop. There are standards. Weird ones, I ain’t gonna lie, but thems the breaks.

I used tiny rocks, barely more than pebbles because they were less likely to be ones with sentimental value to the *Pathfinder* team. I was stealing their Lander, after ripping one of its petals off, I wasn’t gonna be any more rude than necessary.

Where *Pathfinder* had sat there was instead, after a fashion, a cairn. To be more accurate, it was a
heap, but that’s a cairn, right? I’d been going for an inukshuk kinda thing, but I couldn’t the balance right and the second I drove the rover away, it’d likely have fallen down anyway.

Because I’m an asshole, I then spelt out THANKS to the side of my gorgeous heap. I got a whole valley of rocks and nothing but time, seeing as how I wasn’t gonna be leaving until the morning.

It took over an hour to ensure that the sign was big enough to read from space, but it was worth it. One day, someone might be sending the MRO this way, and the idea amuses me. The conspiracy theorists would bust a nut over it.

Fury would be dumbfounded.

I’m only disappointed I can’t be there to see that. It’d be glorious.

What can I say? I’m an asshole.

The first artwork on Mars and I’m using it to be a complete dick. Sometimes being the only person on a planet is kinda fun. Nobody can yell at me over this shit.

I know it’s my own fault, but by the time I hauled my ass into the rover I was exhausted. I ended up sitting on the floor for ten minutes before I could find the energy to wriggle out of my suit, pushing it away with my feet so I could stretch out on my nest and groan as I felt the vertebrae in my lower back crack and pop.

I’m getting too old for this shit.

Can you imagine what it’d be like if I didn’t have the mini-crane? Forget having to deal with the Space Pharaohs, I’d be building a pyramid of my own.

Okay, so what I’d have had to build it might have looked more like a ramp, but we all know it’d have been my final resting place. I’d have fucking died getting the rover on the roof or some shit like that. I’d have spent hours piling up rocks and dragging something I could barely move up along it up to the roof. Fucking around with my tablet some more, out of a sense of morbid curiosity, I worked out that a 30° grade was as acute an angle as I would have willing to go – the sharped the angle, the less time it’d have taken to build - in case I lost control or hold of the Lander and dropped it over the side. For those playing along at home, if that were a hill on a hiking trail, it’d be under ‘Strenuous Advanced’.

I’d have had to dis-assemble it too. I couldn’t have risked the damage; as I drove away, the ramp would have collapsed. As anyone who has seen a rockslide knows, there is no such thing as a controlled one and I wouldn’t have been able to risk harm coming to Pathfinder, the solar cells, or R2D2.

Technology is the shit, and y’all know it.

The Sphinx and Space Egyptians would have approved though – big fan of the ramp was the Ancient Egyptians, as a rule.

I’m okay with denying them this particular reminiscence.

At least the asswipe that denied me a backhoe left me the mini-crane. I might leave him his life if I ever get home.

Now I’m back in the rover, eating a full meal, staring at Sojourner again – and feeling a little like a pervert - and feeling like E.T. with the prospect of phoning home and turning the Hab into a Radio
Shack.

Tomorrow I head home to become a Radio Shack.
Chapter Summary

Bucky has his prize, but can he get home with it? Can he make it work?

Log Entry: Sol 90

So I loaded up the rover and I moved back to Kansas.

Hab, that is. Barnes Farm, potato plants...

I’m an Acidalia Planitia Hillbilly.

Barton has all kinds of weird, retro shit on his drive. He should see someone about that.

I’m seven days into my trip back to New Brooklyn with my loot, and I was right; my tracks from the outbound trip were still visible and I was able to follow ‘em all the way back to Rogers Valley after which it was four easy Sols of driving.

Good to know that whole phenomenon where the return journey seems to be so much faster than the outbound is in effect up here too.

For considering ourselves so fucking complex and advanced, humans are pretty shit at perceiving time, especially in the short term. Hours might seem real long to you, particularly if you’re in an exam from Hell or some sorta enforced family meal when nobody is talking to anyone else, but really it’s pretty short when you consider the length of your life.

My life on the other hand…

I mean, I haven’t managed to almost kill myself yet today, but the sol is still pretty young.

Long story short, our sense of time passing is real subjective and we get easily biased by our mood, enjoyment levels – time really does fly when you’re having fun – and other shit like that.

Bucky, why are you going on about this shit?

I’m teaching you something, you ungrateful shits.

It’s called the return-trip effect.

And lemme tell you assholes, it is in full swing.

On the way to Pathfinder all I could do was watch the clock. Every fucking day trapped in this tin can felt like a year because all I could do was count how every minute was almost another half kilometre closer to Pathfinder.

But now…

Now I got my cargo.
Now I’m all renewed and shit.

I got a sense of purpose.

Plus, y’know, I’m all full of the knowledge that I did this shit once before and I fucking survived.

I got this.

I got landmarks now. I’m traversing Rogers’ Valley like a pro – go on, snigger, I would – but other there to the East, that’s Romanoff Ridge, and in a day or so I’ll come up on a cluster of massive rocks (Wilson’s Boulders if you wanna know. I figured he’d want some decent sized stones once in his life) and then a fissure that I gotta divert about ten kilometres to get around because it’s freaking impassable.

As such, I named it after the most troublesome, and large, thing I know. It’s Barton’s Crack.

Because I am a fucking twelve year old at heart and I don’t deny it.

Felt like a month between Boulder to Ridge on the outward journey, but not this time, now I’m flying. I’ll know I’m on the right path when I see ‘em.

It still ain’t fast enough for my liking, I got an ancient Lander that I need to fix, a building full of people to scare the living shit out of – fuck, it’d have been awesome if it could have been Halloween but I ain’t waiting – and a life to get back on track.

Like I said, I am fucking flying.

But now I’m back in Acidalia Planitia and while the terrain is no longer so unexpected, it’s been 16 days since I last came through here and my tracks are long gone, easily blown away by even a light breeze, the ground not protected by a valley, and huge areas of it more rock than dust. What I should have done was build little cairns every few km which’d be visible for freaking miles in all this flat.

But I didn’t.

Just call me Sir John Franklin.

Hindsight is twenty-freaking-twenty.

Hansel and Gretel were smarter than me.

Of course they’re fictional, but still, kids a third of my age were smarter.

But nobody wants to cook and eat me, so I got that going for me.

So far at least. Who the fuck knows what Space Pirates eat. I know everybody on the lunch menu says this, but I ain’t gonna taste good. I’m full of terrible freeze-dried food and bitterness.

Lots and lots of bitterness.

The cairns could have been multi-functional though - I could have been leaving art across the planet, really freak out the kids back home. Think I could have sold it as performance art?

Shoulda found a way to photograph it all, sold ‘em to a gallery if I got home. The Mars Series, by J.B. Barnes.

How much you think I coulda charged for that? I’m from New York, I know exactly how many rich
idiots there are out there with money to burn and if some of ’em wanna throw some my way, I ain’t gonna stop them.

I could be happy touring the world as an artist.

So long as nobody asked me to fucking drive.

The trip back might seem shorter when I’m driving, but when I’m not, when I’m sitting around watching the solar panels sun themselves, just fucking itching to get my hands on the Lander, and having to physically restrain myself from unwrapping my new present…

It drags.

Especially as since I’ve exited the Rogers Valley, I’ve had to slow down a little.

Which is only pissing me off.

Why have I got to slow down?

Because the landmarks are all well and good, but they’re pretty few and far between. A big-ass cluster of boulders is hard to miss, but there’s miles and miles of bloody Mars in between the end of Rogers’ Valley and them and the ground between the valley and the Hab is fissure-country.

Really should have made those cairns.

I’m back to no maps, no compass, no landmarks, so it’s back to my ole friend fear.

Phobos, I meant. It’s down to you pal, get me back.

All I need is to get within 40km of the Hab and its beacon will guide me home.

Speaking of fear though, I had that weird feeling of being watched again today. When I got out to change the wires over I got that prickly feeling down my spine again. I think I’ve been up here alone too long, but it creeped the shit outta me. I went for a walk, used nearly an hour of filter time, walking in ever widening spirals around the rover and the whole time I looked like a lunatic, spinning around and trying to look everywhere at once, trying to catch sight of something, some reason for the paranoia.

It wasn’t like there were any interplanetary hitchhikers thumbing a ride, me notwithstanding.

What the fuck I thought I’d do if there actually was something out there, I don’t know.

Throw a toolkit at them, I guess.

Kinda lost it a little bit, fuckin’ cabin fever I guess.

I staggered back to the rover and collapsed against a tyre, head bowed down as far as my suit would allow, my neck weak, head heavy as I gulped down lungful after lungful of canned air, and tried to stop what was left of my mind from deserting me, and my heart from jumping out of my chest. I wrapped my arms around the reassuring bulk of the tyre and focused on not screaming.

I lost track of time as my mind clambered out of my head, leaving only a ‘Gone Fishin’ sign behind, panic gripping me by the balls and rampaging through my chest. The pain was similar to The Great Hydrogen Debacle and I hated myself. I hated myself for my weakness, for falling the fuck apart after a mere ninety sols here alone.
When I got my hyperventilating under control, I pulled myself, shaking and slow, up onto the step to flop up into the cabin, needing to get out of my suit and have my panic attack in peace, quiet, and away from potentially-prying eyes, when I thought better of it.

Instead I dragged my ass to the flatbed, to the source of my panic.

I might be a botanist and not a psychologist, but I’m also not a complete moron; the fear, the panic, the feeling of being watched, it all stepped up a gear the moment I left the Hab and set my sights on *Pathfinder*. Now I’ve got my grubby mitts on it, but I still don’t know if the whole thing has been worth it.

Even a douche like Freud couldn’t get this wrong.

I tugged at the edge of the tarp, just enough to be able to get a peek at the closest petal and took five minutes to gaze at my salvation like I was some dame in one of those historical bodice-ripper romances that Ma always denied reading when she went to the Doctor’s office.

Can you blame me, though? *Pathfinder* is gorgeous.

No, I don’t have a nerd-boner for tech, she’s just the most beautiful thing I’ve set eyes on since Rogers.

She’s a work of art.

And I ain’t just saying that to butter her up. Google her, she’s a fucking marvel. And just lookin’ at her has my heart slowing down, even though I can feel the nerves in my gut twist in worry about what might be wrong with my beautiful gal.

But she ain’t all about the looks, she’s a smart gal too and I gotta believe she’ll save me.

She *has* to save me.

Because *Curiosity* is on the other side of the planet.

Which was terrible planning by someone.

Who decided to spread the phone-booths out so far?

For scientific advancement, my bony ass.

*Pathfinder* will work.

Right?

Right.

Remember how I tried to be all optimistic and shit, back before I kept blowing myself up and trying to sterilise myself with the RTG?

Well, it’s back in full force, baby!

I better get *Pathfinder* to work.

I *need* to talk to someone.
I need to talk to Steve.

I need to talk to my ma.

I want my sister to yell at me for making her worry.

I wanna be a person again.

And my new girlfriend is going help me with that.

I don’t wanna tout my own horn or nothing, but I’m good at my job. I’m so fucking good at both my jobs that NASA wanted me.

With her looks and my brains, we’ll get through this.

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**Log Entry: Sol 90 (2)**

After wrapping my salvation back up in her safety blanket, I dumped myself into the cabin, exhausted and barely got my suit off before I fell asleep. The recharges are kinda like what I imagine having a new-born is like – when the rover sleeps, I sleep. I sleep a lot. I can’t necessarily stay asleep for very long – I gotta improvise some curtains or shades or shit – but I try.

Much like a new parent, my broken sleep is about effective as chocolate tea-kettle at keeping exhaustion at bay.

I watched the rest of the *Beverly Hillbillies*, drove myself crazy for two hours wondering on all the myriad shit that can be wrong with *Pathfinder* and what of that list I can actually fucking fix, I took some soil samples while on my EVA, and grabbed a few rocks and put ‘em in a labelled Ziploc-sized bag.

I might get off this damn planet, and it’d be kinda cool to present NASA with a load of stuff that they’re thinking they’ve missed out on. It’s my duty. At least, that’s what I told myself at first. But then it started to get fun, hunting down the best rocks – what do I know about rocks, for fucks sake? But I grabbed pretty ones and ugly ones and ones that fit in the bags I had – and got back to being an astronaut again and not the bastard child of a long-haul trucker and a survivalist.

Plus, it kept my mind a little occupied even if I am a master multi-tasker and can be tying myself in knots with worry while cataloguing soil samples.

I’m a renaissance man.

I still ain’t gonna do all those experiments NASA’ll want.

That bullshit is still bullshit.

But it gave me an excuse to find Steve the perfect rock.

A rock and *Sojourner*…I give the best presents, pal.

Been thinking about Rogers a lot recently.

If this works, if I can talk to Earth, I might get to talk to Valkyrie. I might get to talk to Steve. Tell
him myself that it wasn’t his fault. That there’s no blame. That I lo-

No.

That I’m gonna tell him in person, without Flight and Mission Control listening in like the bossy voyeur they are.

Heh, if anyone were watching me and it wasn’t some sort of panic-induced delusion, it’d be them. C’mon, you can’t tell me you don’t look at Stark and remember all of those articles and exposés and not think, just a little, that there was a man who’d put a power satellite to nefarious and perverted uses.

Space porn, I’m telling you.

There’s a market.

**Log Entry: Sol 91**

Remember how I said the sol was young for trying to get myself dead?

Hahaha.

Nothing like trying to fall down a fissure to give a guy an adrenaline jolt.

Remember how I had to divert around Barton’s Crack on my way to *Pathfinder*?

Yeah…

This whole disrupted sleeping shit is gonna get me dead.

There I was, driving around, keeping it careful, yawning like a mother fucker and I’d swear I just fucking blinked and then suddenly I was slammed back into the seat and the rover’s front right tyres were slipping into a crack in the ground, the side wheels trying to follow after.

Well done me.

*Chariot* is really low slung, keeping its weight low so the ass of the rover doesn’t come off the ground, but it still weighs a lot and driving off what was essentially a cliff – the fissure may have only been about three feet wide, but that’s more than enough for me to get fucked with R2D2 stuck and I ain’t got a crew with an ability to leap into the Funvee and come drag it out - at about 15kph was enough for R2D2 to start to slip down, the middle wheels following through on their threat to slip on the gravelly surface, and following soon after.

Thanks, Jack and Jill. Good to know I can rely on you.

A stomach flipping – and bowel loosening – lurch of the cabin later, R2D2 came to rest with the cabin leaning against the other side of the crack.

If you think I was swearing up a fucking *storm*, you’re damn fucking right. Especially seeing as I cracked my head into the side window.

How many times do I get to slam my head into shit before the damage ends up permanent? Seriously, is there some sorta ‘*Get concussed nine times, get a CT free?’* card I can get?
Why the *fuck* don’t we got seatbelts in this thing?

Especially seeing how I also smacked my shoulder into the central console.

Are you fucking me?

I really gotta get my ass back to the Hab so I can get back to my heat packs for my arm *and* figure out a way to make a bath.

With the cabin propped up, the rover wasn’t gonna slip any further – God fucking willing and for once He owes me this – but I had to get the rover back on solid, *flat* ground.

This is why I need a fucking opening into the cabin from the cab.

If I had been able to get into the cabin, I coulda moved the heavy shit over to the left side of the cabin to help balance out the weight, but, I couldn’t get out the cab without exiting out the airlock straight into a crack into Hell.

For fuck’s sake!

If 800lb of *Pathfinder* hadn’t been weighing down the back, increasing the grip of the rear four wheels, it coulda turned out real different.

Slamming the rover into reverse didn’t get me very far, the front wheel’s spinning in the gravel, not getting enough grip, the cabin lifting away from its new prop, giving me a few inches of joy – shut up, I *know* how that fucking sounds – before the wheels skidded and it dropped back into the crack.

Thank fuck for wheels that can turn through 360 degrees.

Especially wheels that can be individually turned.

I trained for this. Over and over in Idaho we all trained for this. Of course, adrenaline wasn’t coursing through my system like the worst kinda drug, but Phillips had us doing this for days. I can manipulate these controls like a pro. Not even Wilson, with his fancy pilot training and light touch, could hold a fucking candle to me in a rover.

I could bring up the right screen and assign an angle for each wheel with my fucking eyes closed. Which is good seeing as how blood kept dripping into my right eye from what was a pretty small cut on my forehead but head wounds bleed like a fucker.

From what I could tell, the rover was at about a 45 degree angle, the front left tyres were just on the cusp of slipping down, stopped only by the cabin being wedged, the front right ones spinning in the air. I rotated those tyres through ninety degrees for when I did get them on some solid ground – optimism, I gotta have some – while rotating the front left through a more conservative 60. If I managed to get partially out of the fissure, changing the angle of the rover and it then slipped back, I didn’t want the front tyres to be angled directly into the crack.

The back tyres all went right to ninety degrees and I put my foot down like it was made of lead.

Or rather, I toggled the switch by the control console but that doesn’t sound as good. And yeah, *did* in fact slam my foot to the floor because fuck it, I’ve driven that way for half my life and habit is hard to overrule.

I had to keep adjusting the angle of the wheels, the tyres slipping and R2D2 sliding around like it wasn’t sure whether it really wanted to get back to solid ground, and it was slow as Hell and having
my foot down was draining the battery, but I got it back, I backed the fuck outta what I’m now calling The Odinson Fracture because if anyone could slam his hand into the ground and create a fissure, it was gonna be Thor.

I backed a good hundred metres away from the fracture before the low battery alarm began to blare and I stopped.

And freaked out.

I think that’s the medical term.

I killed the alarm and sat there for ten minutes until the shaking in my hands stopped and I could get my sweater and shirt off so I could press my wadded up shirt against my temple to get the bleeding to stop.

At this rate I’m gonna have to start banking my blood periodically just in case. I keep fucking leaking all over my house and cars. I gotta stop with that.

When I could pull myself together, I suited up and headed out to trade the batteries over and check on my girlfriend. I wasn’t gonna get as far that day as I wanted, but R2D2 seemed to get through it alright and Pathfinder seemed to come through just fine, never in any real danger, but I checked over each strap, and made sure my baby was tucked in real tight.

Then I clambered into the cabin and checked out the shit show in there. There was, of fucking course, shit everywhere.

Thankfully not literally.

Thank fuck for really strong box lids.

But everything else, that was all over the place. It took me about forty-five minutes to try and straighten everything out, get everything back into its place so that I could make sure that nothing had gotten damaged when it flew across the cabin and smacked into the wall. Not just the shit I brought with me, but the internal tech of the cabin, the controls for the cameras that are situated on the outside, the screens that so easily could have cracked when the spare suit helmet smacked into it, the computer consoles, all that shit.

I’m the luckiest fucker alive.

I fell asleep behind the wheel of a multi-million dollar rover, drove it down a fissure and lost nothing.

Some time maybe, but nothing was permanently damaged.

Not even me, which is a fucking first, and something I’m taking to be a fucking sign that this is all going to work.

When I was sure everything was ready, and my legs weren’t trembling anymore I got back behind the wheel and began my diversion towards Barton’s Boulders.

There was one good thing about my little impromptu death-defying.

I knew I was on the right track.

When I got to the cluster of rocks about half an hour later, I made an executive decision on the best way to spend some precious filter time: I drove as close as I dared, climbed into the cabin, grabbed
one of the rasps from my kit and made my careful way over to the biggest boulder.

I carved my name into it.

It took awhile and my hand cramped like fuck about halfway through – a screwdriver would have been better but I’m gonna need them more than a fucking rasp – and my left shoulder and arm began to burn pretty fast from bracing my weight, but even if it took me a while, carving ‘Bucky Barnes was here 2033’ was awesome.

Because I am, as I said, a 12 year old boy.

Filled with regret from not taking images of my cairn, I did use the excellent zoom on the front right camera and took video and images of Mars’ first graffiti. Lemme tell ya, it’s a lot fucking easier with spray paint.

Yes, I have a faintly misspent youth.

No, I ain’t telling you about it right now.

At least this time I’m not in danger of being charged with vandalism or damage to property; I’m the fucking King. I can destroy whatever the fuck I want.

**Log Entry: Sol 92**

For two whole seconds this morning I picked up the beacon of the Hab before it fell silent again. It’s a great sign. After my delay yesterday and reduced mileage, I’m probably actually about 100km from New Brooklyn so it’s a freaking miracle that I got the signal at all given its range is 40km but it means I’m closing in on home!

When did the Hab become home?

Given the Hab belongs to NASA, and NASA is an American organisation, that means the Hab is under American law…does that make me a squatter?

I get *Pathfinder* working once I get back to the Hab, I can ask someone. Until then, I’m claiming squatter’s rights.

If I’m up here ten years, making me the legal owner of the Hab and site, I will fucking haunt NASA for the rest of time. They’d better rename the whole fucking *planet* after me if I managed that. I wonder if I’d be deemed an alien rather than a squatter? I’m definitely extra-terrestrial, I can tell you that. Don’t think I’ll fit in a bike basket though.

Willing to give it a try if I gotta ride in one to get home.

It’s a good thing too, that I’m close to getting back because I’m running out of crappy TV on Clint’s drive. Much more and I’ll lose the will to live. I think the best I can say about the sheer volume of stuff on here is ‘eclectic’.

Seriously, the amount of space on the drive dedicated to weird-ass ‘reality’ TV is astounding.

Thankfully, most of it seemed to revolve around animals – unless you wanna cry, don’t start watching *Supervet*, take it from me - rather than Kardashians. Though I guess depending on who
you ask, the line between those two things is pretty thin…

Clint does, however, have the entire X-Files collection, including the motion pictures. Last night I watched an early episode with Mulder and Scully investigated potential sabotage in the shuttle program. Mulder’s childhood hero was potentially being possessed by an extra-terrestrial spirit.

Sure, it was entertainin’ enough – I even got so involved I was yelling at the screen about the inaccuracies - but having been up here for three months, I can tell ya, Mars is way fucking scarier than that episode; the special effects were hilarious! Won’t lie, I laughed a lot.

Felt real good.

Then I made the mistake of falling asleep watching the Terminator series and had nightmares about the tech in the lab starting to go all Hal on me and rebelling and growing legs and shit.

That did not feel good.

I woke up with a start with my nose six inches away from Sojourner and didn’t that spike my heart rate.

Forget the feeling of being watched while on the surface, now I keep turning around in my seat and peering through the window separating cab and cabin and keeping an eye on Sojourner. If you think I toggled a couple of the exterior cameras so I get streaming of Pathfinder as I drove along.

This is how you crash.

Forget fucking microsleep at the wheel, keeping an eye on a robot that’s in your backseat is gonna have you driving off the non-existent road.

Good thing fissure country has morphed into medium-sized rock country.

I won’t be insulted if you think I’m a complete moron.

Especially seeing as how so far as I can tell Sojourner and Pathfinder aren’t gonna go all SkyNet on me.

But I’ll keep an eye on ‘em.

They may still turn.

**Log Entry: Sol 93**

Got the Hab signal back again today, good ‘n strong, no more of this beep-beep-beep-gone shit. I’ve got no chance of becoming a lost boy now. According to the computer I’m a little over 24km away.

Halle-fucking-lujah.

In case I’ve not mentioned, I’m really fucking sick of the rover, not least because since I fucked my head and arm yesterday I am a ball of pain and don’t think I can take more of this shit. I need to start doing those fucking exercises I found on Barton’s laptop and I need to be on an actual bed – and I never thought I’d ever refer to the bunks up here as a bed - or my arm is never going to get better.
I might be right-hand dominant but some of the shit I gotta do up here requires both to work properly. I can’t root around in the guts of the AR with only one arm. I can’t take apart the WR with only one arm.

I may not be able to fix *Pathfinder* with only one hand.

I need to get the fuck outta this rover.

Don’t get me wrong, I love that it’s gotten me to *Pathfinder* and nearly back again. It’s done everything I asked of it and more, and it’s a great trial run for Schiaparelli, but my body is fucked.

Nobody tells you that being a trash dragon requires a serious chiropractic budget.

That ain’t in no fairytale, but it sure as shit would explain some stuff. I too would start burning people alive after a pretty short time of sleeping on a not-at-all supportive bed of gold.

Or clothes and blankets, as the case might be.

I’ve spent so much time sitting or laying on my heap ‘o trash that I’m wishing for Barton to be here with my entire being.

Didn’t think I’d ever say *that* either.

He’d gimme a buncha shit about it, lecture me about posture and stance and the importance of exercise and all that shit, probably go off on one of his ‘*fibre is important. Eat fibre. Are you hydrating? You need to take more exercise. Take care of your body,*’ lectures, hypocritical bastard that he is. I’ve never seen someone consume as much coffee, beer and junk food as he can manage.

I can’t believe I’m gonna say this, but right now I’d actually welcome that damn lecture. Especially if it meant Clint would then shut up and give me some advice on how to stop my back making me want to cry. Or maybe a massage. A massage would be better than sex right now.

Until you’ve had back pain – and didn’t that get *way* worse after yesterday’s impromptu rollercoaster - you cannot grasp how much if fucking hurts. Everything, *everything,* is balanced on your lumbar spine and when it’s fucked…

Moving my legs hurts.

Twisting to get out the rover hurts.

Bending to switch the wires hurts.

*Breathing* hurts.

I move wrong and it’s like everything south of my shoulder blades just seizes and I can’t do a fuckin’ thing until it passes. I don’t know how much of that is the rover shit or my escapades with the fissure…

No more hefting heavy shit around.

I’ll get right on that, after I unpack the cabin and get the hundreds of pounds of heavy shit off the flatbed.

Dooohickeys, man. They are the shit.

How the fuck am I gonna manage 50 days in here? To go on walks I gotta use CO2 filters in the suit.
Those are at a premium right now – especially after me going AWOL a few times on the surface for the good of my own mental health - and will be even more so by the time I’m ready to head to Schiaparelli. I’m gonna have to put the grey matter to work, thinking of a way to devise more space for the trip.

Whoop de frickin’ doo.

I think there’s only been one worse confined spaces experience in my life and that was during training.

We all had to practice the feared ‘Missed Orbit’ scenario. It was something we all feared and we had to be prepared to deal with the eventuality; Missed Orbit occurs if the second-stage fails during the MAV’s ascent back to Valkyrie. It’d get us to orbit, but too low to reach the ship and because of how we’d be surfing along the upper atmo, our orbit would rapidly begin to decay, falling further and further away from Valkyrie.

And closer and closer back to Mars.

NASA would assume control of Valkyrie and remotely operate her to come to us, we’d rendezvous and then get the fuck outta there before Valkyrie caught too much drag and began to plummet on its way to becoming an expensive pancake.

3 days.

3 miserable, hateful, fuckin’ days in the MAV simulator with five other people. All goes well, the ascent takes 23 minutes. There are a lot of fucking 23 minutes in 3 days. It didn’t take long for shit to get cramped in there. Took even less time for us all to want to kill each other.

Which I guess was part of the point. It wasn’t just Rhodes and the team putting us into a worse case scenario to train us in how to survive it. Nah, it was deeper than that. Garner wanted to see how we responded as a crew.

At that point the crew had been selected, but there were a couple alternates – Danvers and Cho – in place in case of, for whatever reason, one of us needed to be replaced. Reasons for that were either gonna be physical – remember poor Ken Mattingly – or psychological. We were gonna be spending more than just the year of travel together. We were gonna have to train together and learn to pull together. There’s no room there for conflict or ego.

Which is why Stark would make a terrible astronaut.

We all get along real well, we’d never have gotten so far into training if we didn’t: teams need to gel.

Or they’ll kill each other.

But under stressful circumstances, friendships get tested.

And ‘cos some of the bastards at NASA are sadists, that’s what they want. Garner wanted to see how we’d cope individually and as a team. Flight wanted to know we knew what the fuck we were doin’ before letting us loose on their multi-billion dollar equipment.

We ran that drill again and again.

Imagine your five closest friends. Now imagine getting shoved into a small room, unable to move from your seat, while the simulator throws you around and tries its best to fake kill you.
For three days. Not three days of entering and exiting the simulator after hours of training. Nah, Phillips and Rhodes didn’t pull their punches with this. It was three days straight. We walked into that sim 8am Monday and we didn’t get out again until 1pm Thursday. We were allowed breaks every few hours to refresh our MAGs and – and that was disgusting but is how I perfected the whole taking a dump in a bag business – NASA saw fit to bring back the charming waste disposal method from the 70s. The Fecal Containment Device.

Trust me, the less you know on that, the better.

But at least we had the MAGs. Back in the 70s they had this condom-like tube thing for Urine Containment Device because all the astronauts were male, no need to accommodate female anatomy. I don’t think Nat woulda been real fucking amused about being handed that.

Still, it was a horrific three days.

We’d been provided with, and this is ridiculous, a series of packed lunches – complete with fucking brown paper bag – stowed in a box that’s screwed to the floor so that the rock ‘n roll shit wouldn’t end up throwing bologna all over the windscreen.

With toilet and nutritional needs taken care of, we ate, slept and shat in that sim.

Still wanna grow up to be an astronaut now, kiddos?

When we were finally released from our prison, Rogers declared that what happened in Missed Orbit, stays in Missed Orbit. Cliché, maybe, but it worked. We were all able to push down the irritation and anger of the previous few days and forgive and forget and move on, a cohesive team.

Know what we didn’t train for?

We never trained for losing one of the team. Never trained for what it’d be like to leave someone’s body behind. I’ve no idea how they’re doing. I don’t know how they’re feeling. I don’t know how they’re coping as a team.

I’m not so egotistical to think they’ve fallen apart, weeping at their control stations and barely able to do their work, but Rogers and Wilson are military men. Leaving a man behind goes against every instinct in their body. Wilson’s already seen his best friend blown out of the sky…I’m sorry Sam. I’m so sorry.

Natasha’s lost enough people in her young life. She’s one of the strongest people I’ve ever met, comes off kinda cold if you don’t know her, but under that she loves and cares deeply. She just doesn’t know how to show it without feeling weak. Leaving my body behind, seeing her friends cut up…I hope she can trust the others to be vulnerable, to let herself lean on them when she’s upset.

Barton’s like the brother I never had. He’s ridiculous and insane, but he’s also plagued with guilt and self-loathing that my ‘death’ would only add fuel to.

Thor’s like a warrior of old, stoic and strong but under that he’s a puppy dog, gentle and loving and losing a crewmate when he believed us all to be invincible would have hit him hard.

Rogers…Steve who has lost almost everyone he’s loved. His dad, his mom, his buddies in the army, even his best friend nearly died a couple of years ago when a bannister collapsed and she fell two stories onto a rebar. Went straight through her abdomen, she had to endure a handful of surgeries and near endless physio, Steve flying out to be at her bedside, holding her hand the whole way through.
He can’t lose someone else, and I ain’t saying that I think I mean the world to him or anything, I’m just saying he already carries so much on those shoulders, blames himself for so many deaths, thinks he could have prevented them, feels like he abandoned his men when they fell.

Steve, you didn’t abandon me. You didn’t…I’m sorry.

If I could take this all away, I would.

I’m gonna survive, I’m gonna see you again, make you believe this wasn’t your fault.

I’m gonna get *Pathfinder* to work, and you’re gonna know the truth.

**Log Entry: Sol 94**

Hab, glorious Hab!

Growing ‘taters and morphine!

While I’m still in the mood,

Back to living with hygiene!

Have I spent ten minutes composing that little ditty?

Don’t judge.

I can’t believe how *much* I missed this place.

I could kiss the airlock.

In fact, I did.

Walking back into the Hab was exactly like when I used to visit home when I lived in the dorms. Something about it was a serious mind-fuck. It was always super disorientating – seemingly one minute I’m jumping on a subway near a building where I think for myself, cook and clean for myself, have nobody to answer to but myself, and then I was walking back in Ma’s front door, the same potpourri smell washing over me, back to sleeping in my own bed.

It was like being sixteen again.

Like I said, mind-fuck.

As is the fact I just basically called the Hab home.

Now normally at home, I get in the front door, kick off my shoes – ‘cos I ain’t a heathen – throw my coat at the couch – I usually miss but I was getting better before we left, sometimes I even managed to remember to hang the thing up – maybe have a snack while I fire up my computer and/or scramble towards the bathroom for a piss because New York public bathrooms are a fucking health hazard and only for use in the most dire of emergencies.

In my *new* home, I had to, even though I wanted out asap, stay in my suit for another ten minutes or so. No taking off my shoes, no shedding my coat, no going for a piss.

No fucking freedom at all.
I was back in the Hab and yet still not free.

There’s gotta be some psychology behind how you can wait freaking years to get something and be okay, be anxious but okay. Then you get ten minutes from your goal and you’re crawling out your skin. 22 days I’ve had to be in a suit or in the confines of the rover, you’d think I could make it ten more minutes without much effort.

You’d be wrong.

Patience ain’t my thing.

When I first got in the Hab, out of habit I reached for my helmet, ready to enjoy the freedom that tens and tens of square footage affords me before remembering how it felt to suffocate. There’s very little oxygen in the Hab seeing as how I turned off the AR and Oxygenator so that my lovely plants could marinate in all the CO2 they could wish for.

After firing up the Water Reclaimer and the Atmospheric Regulator and the Oxygenator, I tried to be a mature professional as I looked over the air levels while doing the grown-up version of the pee-pee dance as I jigged around fucking desperate to get out of the suit and take a lungful of sweet, shitty, air.

It all checked out beautifully with CO2 still available to them without me exhaling for them. Of course, that wasn’t going to stop me carrying out some lovin’ on my plants, checking each one over obsessively for any signs of ill-health.

Just like how Ma’s weird potpourri – I’ve smelled a sea breeze, and lemme tell you, that was no sea breeze – used to just envelope me when I got home, so did the scent of shit and soil when I finally broke the seal on my helmet and shimmied my ungainly way out of the suit.

It’s good to be home!

Even if home feels like a rainforest.

When did the kinda gross scent of the Hab become reassuring to me? I thought ‘Sea Breeze as created by scientists in a lab with no noses’ was bad, but this isn’t exactly the scent of chocolate chip cookies we’re talking about here. I’d stopped noticing the aroma before The Great Expedition, but now I’m back it’s like my nose is working again and it’s a flat-out assault to the senses, yet I’m all about that stench!

First thing I did – after waving my arms around like I just don’t care because I had the fuckin’ room to after twenty-two fucking days in a tin can – was check on my beautiful plants, getting my hands all up on those stems, checking over the leaves, rummaging about in the soil to test the water content.

It ain’t like I’m a helicopter parent or anything, but I never managed to set up Nanny-Cam so I haven’t seen my babies in weeks.

Family reunion, aisle three.

All healthy and growing. I’m as proud as any parent.

Of course, I’m gonna eat ‘em so maybe I shouldn’t think of ‘em as my plant children.

Sounds like a Tim Burton movie.

Which Barton’s drive is sorely lacking in.
Flat out criminal.

I mighta danced across the gigantic expanse I had to play in having taken half a vicodin to get through the last bit of driving.

In that moment, I was feeling no pain!

Five seconds later I was feeling all the pain.

Not only have the Hab and I been reunited, I’ve had a delightful reunion with the complete T1000 get-up, and though some morphine was pretty fucking tempting – head and arm and back were all clamouring for it – I got the crystals in the bags going and got my arm sorted out, slapped a couple single-use heating pads on my lower back and then checked my head wound in a mirror in the Medbay.

I’m going to have another wicked cool scar.

It felt fucking amazing to move around! Being stuck in the rover with nothing to do but drive or watch TV led to way too much introspection and me getting angry with being fuckin’ stuck here instead of being on the ship with them, instead a bein’ halfway to my ma and my sister.

So let’s leave what happened the other day there.

This is the Missed Orbit scenario all over again. What happened out on the surface, stays out on the surface.

Today is a celebrating day, not a remind-Bucky-about-bad-shit day.

Work with me here, people.

My optimism took a pounding the last few days even with Pathfinder on board, but here, under the Hab’s gorgeous dome, with Pathfinder outside and all my tools around me to make it work?

You better believe that I’m feeling fucking optimistic now!

I’m whistling.

I’m whistling the Golden Girls theme song, but get off my back, I love those women now and they’ve been with me through some hard times.

I went through your average post-vacation activities with a few extra that I’m guessin’ you don’t have to. I didn’t have to deal with a pile of soggy newspapers piled up on my porch, or try to shove the door open through a pile of junk mail and bills, only to find someone had left a faucet running and the kitchen is flooded.

Nah, instead I did the unpacking of the rover, bringing in one of the presents I’d bought from the Ares Vallis gift-shop, popping Sojourner onto my work table – I brought that heavy fucker in first because it was most important after Pathfinder and I wanted him good and safe where I could tinker, wrapping him up in a tarp for the time being until the Water Reclaimer pulled the majority of the water out of the air again.

Funnily enough, rover designed for a bone-dry planet and water ain’t a good mix.

While my arms wanted to fall off, I turned to lighter shit, returning the CO2 filters to the correct cupboard, putting the clothes I’d borrowed back into the sleeping area, dumping my pillow and
blanket on my bunk, refreshed my Oh Shit Kit in R2D2 because I’m me and I’ll be in there again seeing as how I’m a fuck-up…

All your average stuff.

Until…

I upended my bags of shit into the Bucket ‘O Bucky’s Shit and poured the container of piss into the Water Reclaimer.

If ya’ll do that after your vacations then remind me not to holiday with you. Even if ya’ll do vacay in an RV.

Now it smells like home.

Because of the Water Reclaimer being off the three weeks I was away, New Brooklyn’s humidity was worse than Georgia in August, condensation rolling down everything so I spent the next few hours running checks on every other system. I’d gone nuts with the tarp – thank fuck NASA sent us up with freaking miles of the stuff – and duct tape before I’d left. None of you are likely old enough to remember those heavy plastic white covers they used to put over those massive CRT monitors, hell I shouldn’t be old enough to, but my dad was allowed to take one of the old computers from work when the whole system was replaced – we’d never have been able to afford one otherwise – and he was religious with that cover being on, protecting the PC from dust and liquid. Becca and I were banned from eating or drinking around it, but dad wasn’t stupid, he knew we’d sit there with a stack of toast and a drink.

Ah, memory lane.

That plastic cover was the bane of my life but it did prepare me nicely for the job I did to the tech up here before I left. Before I turned on the rest of the equipment that wasn’t directly related to keeping me alive, I wanted to check it over and wait for the humidity to drop.

No point taking risks.

I couldn’t even say that with a straight face.

Satisfied that the Hab had managed to get by without me just fine – they grow up so fast, I remember the days we had to unfold its canvas and here it is no longer dependent on me – I dug out Barton’s laptop again and hunted around for some stuff to do for my back, alternating it with some of the pilates and yoga that Natasha had on her drive.

Child’s pose is a gift to mankind. A motherfucking gift and I finally had enough space to do it. Pro tip: don’t try child’s pose in a spacesuit, that shit ain’t right.

With the T1000 arm packed with refreshed crystal pads and my arms and back having had a little time off after the dragging around of the stuff in the rover, I had to deal with the shit on top.

I didn’t wanna have to go back outside and get on with the rest of the shit, but my other vacation purchase was still up on the flatbed of the rover, and I needed to return the solar cells to the array or the Hab was gonna begin to suffer now that most of the systems were back on line and drawing power. Not to mention, I left New Brooklyn on emergency power, which means it’s a fucking ice box in here. By the time I’m done breaking my back hauling shit around, it should be nice and toasty in here.

Or at the very least I shouldn’t be in fear for my balls retracting into my body.
The heater in the suits may be pretty shitty, but it’s warmer in there than in the Hab. Which is saying something.

It took fuckin’ hours to get those cells back into position, and I only bothered rewiring about a third of them before my lower back and hips felt like they were trying to burn their way through my skin. The rest I strapped back onto the lattice for another day, hooking them into the Hab’s power grid, in a hurry for a greater reason than just pain.

Once it was done, I could tinker with *Pathfinder* all I liked without worrying the lights were gonna crap out on me.

I’ve no idea if I can make it work, and if I can, how long it might take me. I don’t wanna have to stop part way through and go swear my way through setting up the solar panels.

Besides, I’m gonna need juice to fire the bad boy up.

Not a lot, I don’t wanna fry the sucker, but I’m adding another drain on the resources, I gotta get the array working first.

Just like the trip back from Ares Vallis seemed so much faster than the trip there, the art form that was getting *Pathfinder* off the flatbed took practically half the time. Which was a good thing ‘cos the vicodin was wearin’ off and juggling 200kg, even in Mars reduced gravity, wasn’t high on my list of priorities.

Can I hear it for actually knowing what the fuck you’re doing!

Until of course the straps began to slip.

Because Mars likes to fuck with me.

After several hundred miles going over bumps and cracks and driving down into a fissure, had shifted the Lander around inside it’s tarp and strap haven, the weight shifting so that when I got the doo-hickey on and the mini-crane was hooked up, when the weight began to lift, the Lander shifted, one of the two stabilizing straps that ran underneath it slipping to the side, the Lander lurching in the tarp.

Nope, not happening.

Not dropping my fucking Lander on my fucking *doorstop*.

I fought down the panic and instead of slamming the release on the mini-crane and lowering the Lander as fast as possible to the flatbed, I remained calm, slowly returning it to its resting place and strapping it back into its seatbelt while I weighed my options.

Using the doohickey alone was too risky – I had to lift the Lander from the flatbed, push it out over thin air and then lower it back down to the ground. The whole thing had taken in excess of three minutes in Ares Vallis.

180 seconds and any one of them can be the moment when *Pathfinder* crashes into smithereens.

Pretty certain the warranty doesn’t cover Acts of Idiot.

I needed a new plan.

I needed a way to get the Lander down that didn’t compromise it.
Good thing I got a tonne of shit around here.

I detached one of the struts from the MAV platform and dragged it over to the rover, kicked it over onto its side, creating an incline of about 30% before propping it against the rear of the rover and digging the other end deep into the dirt. Instant ramp, no waiting, no heavy lifting, no Bucky screaming in agony.

No Bucky risking dropping the damn thing because the straps slipped.

I set the mini-crane to winch up slowly, just enough that the Lander was about an inch clear of the flatbed before using one hand to swing it gently over to the strut, and lowering it down so most of the weight was supported by the strut but it was still being suspended from the mini-crane.

Then I just let it slide down to the ground.

Easy as pi.

No I didn’t leave the ‘e’ off that. Anyone who’s had to make calculations using pi to the 20\textsuperscript{th} decimal point knows what I’m talking about.

If I go scavenging for shit again, I gotta take the strut with me – this thing is ridiculously useful. If I can manage to communicate with home, when I set out to Schiaparelli, I’m gonna need to take Pathfinder with me and unless I can come up with a way of opening the petals while it’s still attached to the flatbed, I’m gonna have to be repeating this manoeuvre countless times over my grand adventure South By South-East.

Maybe that’ll be a chapter in my autobiography – ‘Live and Learn: How to Learn From My Mistakes So You Don’t Make ‘Em’.

Chapter One: Don’t go to Mars. If you don’t go, you can’t be left behind.

Chapter Two: If you do go to Mars, slap yourself in the face for being so stupid and don’t get left behind.

Chapter Three: Waste not want not. Recycle, reuse, refresh.

Chapter Four: What the fuck to do with Pathfinder now I have her

Just like the rover airlock, it’s too big to go through the one into the Hab.

Bucky, just take it apart, take it piece by piece into the Hab and stop whining.

Uh, no.

Like I said when I was looking for the damn thing, Mars has no magnetic field. Without it, it’s got no defence against solar radiation. The Hab’s canvas shields me from those electromagnetic waves. NASA engineers and techs worked for years to perfect the canvas structure, so that the Ares missions wouldn’t have to spend the first quarter of their time on the planet hauling regolith up and over the whole exterior of the Hab to keep us safe from the radiation. Thing is, they did their job so well that if I took the Lander inside, the radiation that its been exposed to over the last few decades wouldn’t be able to escape, it’d just be in there with me.

Pathfinder has been up here a damn long time and that radiation isn’t to be fucked with.

I know, I know, I fucked with the RTG but I didn’t go around cracking open the pellets and sleeping
twenty feet away. *Pathfinder* isn’t in insulation to protect me. If I took it inside I’d get cancer. My cancer would get cancer.

I’m not stupid.

Alright, alright. I’m kinda stupid, but I’m not totally suicidal. I know how to take calculated risks. And this is one the maths just doesn’t work out on. *Pathfinder* and I will be sleeping in separate bedrooms. In separate houses.

Doesn’t mean I don’t love her.

She’s still as gorgeous as the day we met.

Speaking of calculated risks, I have to get back in the rover. Again. I really don’t want to but I have to take the RTG back to its cosy hillock home. If it breaks open – and let’s face it, I attract trouble – I’m gonna die. I can go back and collect it again when I need it for the long journey.

I ain’t burying it again, though. That is the sort of shit that practically guarantees the fucker cracking open and I’m gonna need it to get to Schiaparelli. I’m just gonna plant the flag again and leave the RTG on the ground beside it. It’s pretty durable and should be fine rolling around on the surface, but I’ll go out every week to check it over.

Having gotten *Pathfinder* safely to the ground, I got back into R2D2, with minimal whining – see how the optimism is working out for me? - and drove back to the RTG dump-site- and fuck me, with nearly a 1000lb less weight riding on the bumper, the acceleration was like shit off a shovel - thinking about the Lander and what might be wrong with it.

Could be anything. Could be a power issue, could be something worse. The cold isn’t good for electronics, nor is sand and shit coming out of the sky and rocking the ground.

So, I basically sat there staring at it like some slack-jawed idiot for a little longer than I wanna admit to.

Back home we had a neighbour when I was a kid that had a cat. She was sub-letting the apartment and she wasn’t supposed to have any pets but the cat was so sweet and gentle that nobody turned her in, preferring instead to play with and pet the small creature, the cat living a pampered and spoilt life as it let itself into any open window of any apartment and helped itself to any food it found lying around.

Cats, what can I say?

He was what I heard the old Irish lady that lived downstairs describe as dotey, far too cute and sweet-natured to be mad at for long, even if he did steal the ham right out of your sandwich when you went to wash up before lunch.

So dotey was he, that whenever he managed to catch a mouse or a small rat – and finding a small rat in New York is pretty difficult seeing as how normally we got rats the size of Lassie – he’d sit in the courtyard meowing his head off around the rodent in his mouth and then look at you as if to ask ‘what the hell do I do now?’ I don’t think he ever actually killed anything he caught. I know they say that cats bring their owners live prey to teach them to hunt, but this cat was just totally befuddled by what happened after he caught the damn thing that instinct told him to catch.

I now know how he fucking felt. I got *Pathfinder* here. I got it back to my tools, my work station, my home and now the possibilities of what might be wrong with it and the intricacies of figuring out where the fuck to start has me as lost as that dotey cat.
At least I don’t have a mouse in my mouth.

Gotta look at the positives.

Tonight, I’m gonna sleep in my bed, in luxury and space and no piss-smell.

Of course, there are those that’d say manure is worse, but that manure is the stink of success as the farm keeps me alive.

Speaking of, I’m so excited that tomorrow, I’m gonna piss into a toilet and not a box.

It’s the little stuff in life.

**Log Entry: Sol 95**

Just call me Bob the Builder.

Actually, don’t. I don’t wanna be looking like a member of the Village People.

Or a stripper.

Trust me on this, ain’t *nobody* wants me to strip right now. I’m skinny, I’ve lost a ridiculous amount of muscle tone, I’m covered in purpling scars and I’m pale as fuck.

Sexy, right?

So I’m gonna be a mechanical engineer instead.

A fully clothed one.

You’re welcome.

Today was all about repairs.

I had no idea where to start, but I did know I had to be careful.

Sure it’s a little broken but I don’t wanna make it a lot broken.

*Pathfinder* was never designed to be poked and prodded in this fashion; she’s a *lady*. Clean rooms, techs in full body condoms, not a contaminant in sight, that’s *Pathfinder’s* home. I ain’t got anything even remotely close to that up here. She’s gonna be opened up in the wind, exposed to the dust and soil – and don’t tell me that she’s had all that for decades, I’m talking about her insides - exposed to a man with slightly trembling hands in gloves so thick it’s a goddamn surprise he can feel anything at all, let alone the tiny wires and junctions and boards that *Pathfinder* calls its brain.

Not wanting to be in a suit again for a while – or possibly ever again seeing as how I’ve had enough – and my everything hurting like fuck after my stint as a bellboy yesterday, I decided to start small.

In other words, I started with *Sojourner*.

Alright, fine, I was also being a coward about it. I ain’t proud about it, but it’s true.

My cowardly ass sat at my work bench and gently pried off a panel for a peek inside. Through some
subtle clues – the shape of the connections, the insulation thickness and the really cryptic 'LiSOCl2 NON-RCHRG' written across it – I determined the battery was a lithium thionyl chloride non-rechargeable battery.

LiSOCl2 batteries are the primary battery available with the highest voltage and energy, longest storage, and the least self-discharge rate, which makes them ideal for long-term applications as power for electric devices and electric power, and especially as a backup power source for memory ICs, and they’re awesome in the cold.

Basically they’re fucking perfect for things like rovers on Mars.

Is this some fancy-ass battery designed by NASA that’s too cool for school?

It’s the same damn type of battery that your GPS has.

Well…

Maybe not *this* one. LiSOCl2 are expensive in comparison to other batteries which limits their use in civilian products, not to mention they can be real dangerous when they want. They can explode when shorted, they’re hazardous waste and you gotta be trained to use ‘em.

Guess who has that training, baby!

Shame the battery was long dead then. Unsurprising, and I wasn’t expecting any different, but still, I spent *months* training on these damn things when I was with the Peace Corp and then on a project with the military – if they’re too expensive and dangerous for the majority of consumer products, you bet your hot ass that the military goes through ‘em like candy –and now I feel kinda like I’ve been robbed of getting to let loose my mad battery skills.

But that’s okay. The battery was there for night power, when the solar array was useless, keeping the heater running, keeping the APXS doing whatever the fuck it was doing – tests take time, dammit – and keeping the comms between it and *Pathfinder* open. Without it to maintain power, with the solar panel covered, the rover would have run outta juice quickly. One night it would have gone to sleep and not woken up.

I have a supply of the right battery, but I was pretty loathe to replace it. I’ve got a limited number of the batteries and I want to keep a hold of them for situations where I have no choice. This ain’t one of those times; the rover can run completely off the solar cells and when it’s not outside under the sun hopefully helping me communicate with Earth, it can be in here with me under the lights with the potatoes.

I was also worried about passivation. During training as an AsCan I was taught to assume that a dormant lithium chemistry battery will develop a passivation layer and that the effects on the circuitry may be significant. If, in my haste, I don’t correctly characterize and despassivate the battery, I could possibly do damage to my hard won little traveller.

*Loss of mission* kind of damage. I need those wheels and I need them now.

So I cleaned those solar panels off as thoroughly as I could – I ain’t kidding. I took a *rag* and polished those panels- and after I checked them out under a massive magnifying glass – I don’t wanna know what the fuck Barton needed that for – scouring over ever millimetre until I was satisfied and left it to sit under a lamp.

If the panels had been damaged, I’d have found a way to drag one of the panels from the array in here and hooked it up to that. I’d have to have made another solar charge controller, but if it meant
Sojourner was gonna work, it’d be worth it.

While it charged – please, please charge – I suited up and headed to the Lander. Like Sojourner and just about every other Lander ever, its greatest weakness is the battery. Back when it stopped talking back, it was theorised that the rechargeable battery could no longer cope with the recharge-discharge cycles that had gone on for three times the length of time it was designed for and that had been that.

Unlike Sojourner, the Lander had the capacity to be a lot more fucking difficult to fix.

Landers are complicated. Really complicated and there’s a lot of wiring and electronics hidden beneath the surface. Sojourner is to Pathfinder like a single cell is to an organ. Both are complex, both are beautiful, but one has a hell of a lot more shit to keep going right than the other. Unlike most of the shit you own, Landers can’t just shut down when their batteries are low and wait for the day some 36 years later when a complete idiot comes along and steals them. The battery has to keep the heaters on because the electronics cannot function in the cold of Mars.

Ares Vallis was chosen not just because it looked like a good landing site, but because it’s equatorial. Just like on Earth the equator here is the warmest with the longest hours of sunlight but it still gets real fucking cold.

Over time, the solar panels get covered in shit, just like the solar array by the Hab. Unlike the Hab, the Lander didn’t have a handy astronaut to tend to it and so the solar panels would become less and less efficient. And they wouldn’t be that efficient to begin with. Mine are cutting edge and they offer a whopping 44%. Back when Pathfinder was created, they woulda been much less efficient, easily less than a third of the efficiency.

The solar panels no longer pulling their weight would put more of a demand on the battery. Meaning it’d discharge faster and faster. So it’d go through more cycles of recharging. Over and over. Ain’t designed for that.

As Mars’ winter came in, it’d get even colder, and there’d be less sunlight. All this is Mars’ version of a ‘Fuck You’ to all the people sitting in Pathfinder’s Mission Control. Pretty quickly the demand for power to keep the heater going would exceed the amount of power that the solar panels could provide and the battery would run down.

Once that happened the electronics would have gotten too cold to operate, and no more Lander. Sure, over time, and the Pathfinder had nothing but time, the meagre amount of sun the solar panels did catch would begin to charge the battery. Enough to support it to be on. But there’s nothing to tell the system to reboot because that’d require the electronics to be working and they’re not, and with the Lander dead, NASA can’t send a signal to it to wake up.

No more Lander.

I really hope that’s what went down on with Pathfinder.

That’d be a hell of a lot easier to fix than anything else that coulda fucked it.

If y’all could pray that that’s what it is, I’d appreciate it.

I looted the MDV remains again for another strut and dragged it and my ramp-strut over to the Lander to construct a makeshift table to work on because my back would not thank me for bending over all day. After an hour in child’s pose – I fell asleep - and then a series of gentle stretches, the pain in my lumbar spine and hips had subsided to a mere threatening throb and I wasn’t gonna risk its wrath by pushing it.
That’s kinda a lie.

Maybe not a lie, but maybe overstating things. Child’s pose is freaking awesome, but I think the majority of the pain relief came from my new pal, the T1000 Corset. After I woke up and spent ten minutes writhing around on the floor because my feet woke up and my legs might as well have been on fire, I caught sight of the 6” bandages. Bandages designed to wrap around our chests, backs, and hips to stabilize them in the event of a catastrophic injury. In the event someone got crushed or severely hurt, protocol was for Barton and whomever else wasn’t injured, to stabilize their fractures with the bandages and then haul ass to the MAV and get up to Valkyrie and its gorgeous OR.

Down here, they were gonna get a chance to get used for something way more fun – stopping me from screaming in pain. We got two great wheels of the things, metre after metre. Grabbing a wheel and then rolling the fuck away as it came crashing down about an inch from where my gorgeous nose had been – seriously, have you seen my profile? I don’t wanna be cocky here or nothing, but mine is the sorta profile that should be immortalised in a silhouette – I set to figuring out how to make a sorta corset with it.

Not the sexy kind. More like a surgical corset. Dad had one of those after his last surgery, this ugly cream coloured elastic thing that worked wonders but looked like shit. Becca and I figured it was like a cast and we drew designs on it in Sharpies and I used to pin my Boy Scout pins on it. It was still ugly as fuck but it was a loved ugly as fuck. With some medical tape, a strip of sticky-back Velcro and the cutting tool, I created my second fashion collection, this time for Spring-Summer ’33.

The Heating Corset, by J.B.Barnes

A little more tape and some rectangles of bandage I created a series of pockets for heating pouches across each hip, across my back and then up my spine about 8 inches. Ten minutes with the crystals from the cupboard, a little hot water and the air-tight baggies and I was good to go.

It wasn’t as good as a bath, but fuck me it felt good.

And with a little ingenuity, I can adapt it for my ribs for when I fuck those up.

Just give me time, people, give me time.

Between the arm and back add-ons, it was a struggle to get into my suit, and I’d have had to make a table outside anyway – bending in the suit isn’t exactly comfortable, but with the reduced room in there, it was borderline impossible.

Having delayed as much as I could justify seeing as how I’ve spent fucking Sols wanting this, fucking risking my life for it, I sat my ass down and eyeballed my salvation, still lost as hell as to where the hell to start.

I did what any good mechanical engineer did when faced with a puzzle and no specs– I got my tools out and poked around at stuff.

That sounds like space porn again.

Opening up the outer panel wasn’t that hard and because JPL is smart - everything is labelled almost as though the Pathfinder team knew some moron would need a How-To on how to go about fixing it - I found the battery in no time. I know this won’t mean shit to some of you guys, but you gotta be impressed by how little they could get these things to run on. The battery is a 40 Amp-hour Ag-Zn battery with an optimal voltage of 1.5V.

That’s like nothing.
That’s like how the Station Support Computer on the International Space Station used a way outdated version of Windows ’95 as its operating system. The most advanced spacecraft of the time had parts running off fucking Windows ’95, a system that was, in software terms, obsolete years before the first ISS component was blasted into atmo.

That’s how crazy it is that a whole Lander ran off 1.5v.

‘Cept, at the moment, it’s really nothing.

It’s dead as a Dodo. I removed it and went back inside to check it over with my electronics kit just to be sure, but yup, dead. I’d get more charge rubbing a balloon across the floor.

But now I know what I need. 1.5V

Finally, something that I had an actual piece of kit for instead of me having to make do with gluing and duct-taping together shit in the hope it’d work. Come to papa voltage controllers!

You know what’s so great about not having to hodge-podge stuff together? It takes so much less time! A mere 15 minutes to put a controller onto the reserve power line, and then an hour to go back outside and run that power line to where the battery had been in the Lander.

It would have taken me more than twice that long just to find the fucking component necessary to start to DIY a VC, and I’d have been shitting myself about using a homemade anything near the Lander.

I’m good, I’m great at my job, but that doesn’t mean I don’t want something that was made to the exacting standards of the eggheads at NASA, something made in machine, something made to be checked and rechecked and perfected down to the last micrometer near my precious Pathfinder rather than something I made with spare parts I scavenged from the toaster or some other equally stupid place.

Especially as I don’t got a toaster.

Power dealt with I had to move on to the heat problem.

Electronics can handle variants in temperature, can even cope with some extremes but it’s a pretty good idea to keep ‘em above -40°C.

My kingdom today was at a cool -63°C.

Pathfinder has endured that for 35 years.

Because nothing is fuckin’ easy.

The battery was big and easy to identify, even without the label. I don’t even know where to fuckin’ start with looking for the heaters and I didn’t want to dig around too much in case I broke something else. And I gotta be careful with trying to bring ‘em back on line; I could easily fry the whole system.

So I didn’t even try huntin’ them down.

Remember, this is the chapter in my autobiography in which I don’t act like a complete idiot.

Can’t say I don’t learn.

Slowly, maybe, but I learn.
I blame the repeated blows to the head. I’m killing of millions of brain cells each time I get decompressed, blown up or concussed. It’s no freaking wonder that I’m a little slow on the uptake.

This is my chance to talk to Earth, and I ain’t fucking it up by trying to go too fast and rush shit just to phone home.

Enter the Funvee and all its beautiful spare parts. I’ve stripped the poor thing so much it looks like I parked it in the wrong part of town. Might as well repurpose its environmental heater too.

I hooked it into the Hab’s power and rested it into the Lander where once the battery was. It’s like the stupidly expensive version of drying your sneakers with your sister’s hairdryer.

I only did that once.

She beat my ass with her hairbrush when I shorted out the hairdryer when it overheated because I stood there an hour trying to get those Chucks dry.

Not my fault it was some $300 hairdryer. Who the fuck spends that on a hairdryer?

For the record, I saved up and replaced it. Took me a year, but I did it.

I’m really hoping that I don’t short out the Lander doing this.

Or overheat it.

I’ve done the easy stuff.

The stuff that should be easy to fix.

Now I wait.

And hope.

And pray.

And stress myself towards an ulcer while pretending I’m totally fuckin’ cool about it all.

Log entry: Sol 96

I had a dream last night, a real weird one.

I was, and stay with me here, Superman.

Stop fucking laughing at me like that, I would look fucking stellar in tights.

Have you seen my thighs?

These are thighs you wanna see wrapped in spandex.

Or, huh, well, they were. Back when I had a gym and cardio that didn’t involve dragging dirt around. I’m gonna sound an arrogant ass – and I don’t give a shit – but I had good legs.

Great ass.
An ass worthy of spandex.

Red isn’t my colour – yeah, yeah, I know, real funny given where I am – and if I gotta wear blue I prefer something in navy, but I could look good in a cape. I run and jump hard enough outside, I’ll kinda fly for a few seconds.

But that wasn’t what was weird. Nope, I had myself a Kelex.

*Pathfinder* was flying around, using her two properly attached petals as wings. She’d grown little arms that looked suspiciously like antennae, the Imager acting as her ‘face’.

It was creepy.

*But she worked.*

She was helping me fix up my Fortress of Solitude, communicating with Earth, reading me all these messages from Ma and Becca and NASA, telling me they were coming for me, that they knew I was alive, that they were gonna save me.

I spent twenty whole minutes this morning on cloud nine. It was gonna work. *Pathfinder* was gonna work.

A *dream* told me so.

On the twenty-first minute I cleared the airlock.

Five seconds later I knew that the Lander hadn’t made a connection to Earth.

For twenty-one minutes I was the most excited and happy as I’ve been up here since Sol 5.

How was I brought back to Mars with a bump?

I’ll tell ya.

The high-gain antennae hadn’t moved.

Why is that important?

Ask a lotta questions, don’t you?

*Pathfinder* has five separate antennas used during the cruising, landing, and surface operations. The most important of those for *me* was the high-gain antenna, what with how it provided continuous communications from the Lander on Mars to all the people desperately waiting to hear from it on Earth.

There is only one way to get that antenna to move; manually. But not on my end. The high-gain is attached to a slotted plate with degrees of freedom to allow it to point in whatever direction Earth is - the thing came crashing out of the sky and rolled around for awhile, there was no way to ensure that it is going to deploy pointing in the right direction. In a nominal mission scenario, the Imager would be released first and it’d go for a look-see for the Sun. The high-gain would be deployed and Earth would tell it where it was and rotate the antenna so that it pointed at Earth.

For such an advanced and intelligent masterpiece of technology, *Pathfinder* was, in a few very select ways, dumb as dog shit. But it wasn’t its fault, this is shit it doesn’t need to know, it’s a waste of space. The Lander doesn’t know where it is. It doesn’t know Earth from its elbow, let alone Mars. All it knows about where it is, is what Earth tells it. Once it received telemetry from Earth, the
Lander would angle the high-gain antennae towards Earth to get the best reception.

Why is the high-gain so important to me? I need to use the Imager to communicate, and without the high-gain the load on the low-gain to send images is extreme. I can send images via low-gain but they’re shitty quality; black and white with an 80-1 compression. Any image of me I send through that won’t have the clarity to make out my questions. It’ll be a dark, amorphic lump surrounded by other dark amorphic lumps.

The low-gain is a back-up contingency, I need the high-gain.

If - and that’s a fucking big if even with my praying and weird-ass hopefully-prophetic dream courtesy of falling asleep during Man of Steel - Pathfinder was up and running, the first thing she would try and do is talk to Earth and establish a connection, figure out where she is and where Earth is.

With the antennae still in the same position as it was when I went to bed, I knew it wasn’t linked up.

I know what you’re gonna say, and you ain’t wrong.

You’re gonna say that it’s been over 35 years.

You’re gonna say ‘who the fuck is listening?’.

You’re gonna say ‘nobody is gonna hear you.’

But you’re only partially right.

Nobody is listening. Nobody from the Pathfinder flight team is sitting around JPL waiting for a communication from a long-dead rover. They’ve celebrated their job done spectacularly, mourned their loss, and moved on.

Fuck, some of ‘em have probably passed on.

But it’s okay.

We have huge networks of satellites and antennae that are listening to space all the fucking time. Humans are so fucking lonely, so fucking desperate to find other life out there, that we point millions of dollars of equipment at the sky and we hope and we pray we find something.

We listen to the universe.

Which means the Deep Space Network and SETI will likely pick up the signal. They get the signal and they’ll contact JPL. JPL would quickly figure out what was up, especially when they triangulate on the signal to find out where it’s coming from and once they see it’s the Ares 3 site, people are gonna get excited.

But I can’t get excited just yet seeing as how my salvation has yet to, you know, work.

But I ain’t losing hope.

The dream will be reality.

Maybe less fucking flying Landers and more talking to Earth, but it’ll work.

I got nothing but time to figure this out.
There are a number of things that could be slowing it down. The rover’s heater isn’t designed to heat at Mars’ atmo, it’s designed to be encased in an air-tight cabin keeping astronauts warm, and the thin air probably ain’t helping. The electronics might not have reached optimal temperature yet.

She might just need more time.

I’m not gonna fuck with anything else until I’m sure it’s not just that.

So I have to wait.

But there’s also one other thing on my side.

And it’s time again, but not how you think.

Earth is only visible during the day and I fixed – I really fuckin’ hope I fixed – the Lander last night before celebrating with a slew of Superman movies so the time between my stepping into the Hab and then back out has been overnight. The Lander wouldn’t have been able to connect to Earth.

But the hits to my attempts at keeping my spirits up just kept coming.

Sojourner isn’t awake either. Unlike the Lander, it’s been inside the Hab with optimal temperature and all the solar energy the lamp can provide. I’m hoping that it’s just running extended checks after so many years with the lights out, or it needs the Lander to wake up…

I just don’t fucking know.

This wasn’t my project. I wasn’t fucking born. I only know what I do because I’m a fucking nerd. I’m the King of the nerds who had a poster of Pathfinder on my wall while roommates had Halle Berry and Jennifer Lawrence.

I’m flying by the seat of my thin pants.

I can feel the optimism leeching away. It’s real hard to maintain it when everything in your life ain’t working. I’m starting to get a knot in my stomach. I tried so hard. I got the damn Lander back here. I’m tried to fix it.

I don’t know if I’m gonna be able to cope if this doesn’t work.

I need this to work.

I need…

I just really need this to work.

Please.

Please, God, let this work.
Hello, Can Anyone Here Me?

Chapter Summary

Bucky's gotten Pathfinder home, he's done what repairs he can. But is it enough?

Chapter Notes

See the end of the chapter for notes

PATHFINDER LOG: SOL 0

BOOT SEQUENCE INITIATED
TIME 00:00:00
LOSS OF POWER DETECTED, TIME/DATA UNRELIABLE
LOADING OS…

VXWARE OPERATING SYSTEM (C) WIND RIVER SYSTEMS PERFORMING HARDWARE CHECK:
INT. TEMPERATURE: - 34C
EXT. TEMPERATURE: NONFUNCTIONAL
BATTERY: FULL
HIGAIN: OK
LOGAIN: OK
WIND SENSOR: NONFUNCTIONAL
METEOROLOGY: NONFUNCTIONAL
SOLAR A: NONFUNCTIONAL
SOLAR B: NONFUNCTIONAL
SOLAR C: NONFUNCTIONAL
HARDWARE CHECK COMPLETE

BROADCASTING STATUS
LISTENING FOR TELEMETRY SIGNAL…
LISTENING FOR TELEMETRY SIGNAL…
LISTENING FOR TELEMETRY SIGNAL…
LISTENING FOR TELEMETRY SIGNAL…

SIGNAL ACQUIRED

Chapter End Notes

I know it's short, but I've never claimed to be a nice person ;)


Ground Control To Major Tom

Chapter Summary

Pathfinder, the twice-miraculous, has established a link with Earth. Now our erstwhile astronaut and the team on the ground have to figure out a way to communicate with only one moving piece and a lot of words to share.

February 15th
T minus eight hours

“Uh, Sir?” Skye smacked her hand against the screen in front of her in the hopes what she was seeing was real and not a figment of her occasionally wild imagination. 69 hours she’d been trapped in here waiting for just what was now scrolling up her screen.

Fury, the only other person in the miniscule room, leaned over her shoulder. Every hair on Skye’s body stood up so hard it hurt and she had to fight the urge to draw her shoulders up under her ears, suddenly completely aware of how the sickest gazelle in a herd must feel like.

“Pathfinder is transmitting a surface semaphore.”

“What does that mean?”

“Downlink reporting a signal from the craft. We have a zombie lander, Pathfinder is back from the dead.”

“Let’s not get too excited,” Fury intoned as he stood straight. “Downlink is established, that’s all. She’s still got to locate the Sun and face us.”

“Killjoy,” she muttered. ‘That’s all”? Didn’t the Director have any concept of how incredible the words on her screen were? The Lander hadn’t transmitted for longer than Skye had been alive, and his response was ‘let’s not get too excited”? Hell with that! Barnes had pulled off the craziest stunt in history, travelled over a thousand miles to collect a piece of Mars junk and gotten it to connect to Earth.

And she got to be here for it. She, for whatever the Hell reason Fury had selected her, got to be the one to watch as Pathfinder spoke to Earth for the first time in 35 years. Barnes actually had a shot of talking to them. Fury or no, she was gonna celebrate that hard.

A heavy hand clapped down onto her shoulder and Skye deeply regretted the whole not hauling her shoulders up to protect her vulnerable, vulnerable neck. For all he was the Director of a space agency, Fury looked like a man that could snap a spine with minimal effort.

Minimal.

“What I meant is – uh – that – um –don’t kill me?”

The hand squeezed.

“I’ll shut up.”
“Wise choice.”

Skye squeaked as she found her chair being pulled back from the desk, her hands flying up to try and clutch the edge of one corner.

“Go to the Koenig office on the fourth floor, get your new IDs. Go home. Rest up. Tomorrow, we change the world.”

“New IDs?” Skye asked, swivelling in her chair to look up, only to be faced with the retreating back of the scariest man she’d ever met. “Why do I need new IDs?”

“Okay then,” she muttered. Gathering her things together and fighting down her exhaustion, Skye made her way to the elevator bank. “What the hell is a Koenig?”

**February 16th**

*T minus three minutes*

From her position at Fury’s side, Kate Bishop was afforded enough room to actually breathe – a commodity far rarer than hen’s teeth in the packed room – as she looked down at the four badges she’d needed to get into the operations facility where the new *Pathfinder* team were running things that were strung around her neck, the lanyards forming a veritable rainbow. When she’d been handed the three new ones on arrival last night – in Nick Fury’s personal helicopter, and woah shit was that not something she’d ever think she’d see the inside of, but Director Fury had decreed he wanted her to be in the room, to be a witness to the ingenuity of the man she’d been stalking for months now and she figured as rewards went this was totally better than a trip to the spa - she’d laughed at first, until Billy Koenig’s hurt was obvious.

At least she thought it was Billy. Talking to the man to whom she believed the office belonged only to turn around and come face to face with two more identical versions had taken ten years off her life and the next hour had been a blur of faces, well, *face* and at the end she’d been unable to tell Billy from Eric from Sam, and had just smiled when one of them had handed over the new IDs, still warm from the portable laminator they kept on their desk.

Who needed a portable laminator?

For that matter, who the hell needed *four* identity badges at work?

Unless they worked for the CIA.

There was her ordinary NASA badge to get access to the JPL site, a badge for entry to the Space Flight Operations Facility, another for access to the *Pathfinder* Operations floor, and then a further Operations Control badge solely for access to the room she was now in. Rumour was that she was going to have to return all but her original badge but to Hell with that. They were getting framed and put up on her bedroom wall.

On her drive into the site that day she’d passed easily one thousand members of the Press at the gates, their cameras pointed at the distant buildings, others still crowding around her car in hopes she was someone important, most drifting away almost immediately when they didn’t recognise her.

If only they knew.

Easily two or three times that number of the public had made the drive into the site take about three
times as long as it’d taken to get from the site to the hotel the night before. She hadn’t recognised the
number that sent her a text at four am, the vibration of her phone against the table waking her easily
in the unnaturally quiet room but whomever had sent it – and she had the heart-stopping fear that it
was Fury himself - had warned her of the traffic and she’d set off stupidly early to ensure she wasn’t
late seeing as how Fury might actually kill her. It was like trying to attend the Superbowl; people
were holding tailgate parties by the side of the road, waiting for word on if a connection had been
made to a person on another planet, a connection that shouldn’t exist.

A man that shouldn’t exist if it came to that.

But those crowds were nothing compared to the envious looks and spiteful words of some of her
colleagues. Everyone in the room had been personally selected or okayed by Fury himself and the
grand majority of the staff hadn’t made the cut. That she, someone who many considered had ‘just
gotten lucky’, had was more than enough reason for most of her colleagues to now hate her guts.
She still didn’t know what had inspired Fury to not only ask her to attend, but fly her there with him,
in what was the most ass-clenchingly terrifying three hour ride of her life – spent in silence in its
entirety - and she was far too scared of him to ask, but whatever it was, she was grateful.

And yeah, a little fucking smug, because she was in the damn room.

They were making history here and one day she could turn to her grandkids and tell them she’d been
there. She’d been in the room when Earth had received the first communication from a dead man.

That ought to give the kids nightmares.

She was looking forward to it.

A mere foot in front of her, a small screen on an ancient console flickered to life, a stream of code
running at the speed of light. She tapped Fury’s arm in her excitement, pointing wildly at the station.

“Something’s coming through!” Her yell caused a hush to fall over the ad-hoc control centre that had
been thrown together at JPL, everyone holding their breath.

“It’s Pathfinder!” the young analyst sat in front of the console continued, as though it would be
anything else, but she threw a glare at Kate over her shoulder before turning back to the screen.

“She’s not just awake, she’s truly transmitting. He did it!”

The room burst into a cacophony of cheers and applause.

“Holy fuck!”

“Language!”

“Can you believe this?!”

“What the Hell? This is fucking unbelievable!”

“Can you believe this? This is insane!”

“I can’t believe I’m in here. I can’t believe I’m seeing this!”

Relief flooding him and his cheeks aching from the smile that spread across his face, Rhodey, on
Fury’s other side, high-fived the unknown tech that turned to him and offered a palm before reaching
forward and slapping Bruce on the back while the man ran his hands through his shaggy hair and
took a deep breath for probably the first time in three weeks. Around them, a couple people had burst
into happy tears, hugging each other and bouncing in place and, given the cramped conditions, almost knocking each other out when they punched the air.

They’d done it.

Barnes hadn’t been the only one on a mission, and the staff at JPL had been determined not to let him down.

They’d only had 20 days to piece together the ancient computers from the original mission, repair broken components, set up a network and install hastily crafted software to allow them to interact with the modern Deep Space Network. Two teams of engineers had worked around the clock for those twenty days, finishing just in time, Barnes returning to the Hab with the Lander just hours later. Nobody had any idea if Barnes could fix her, and if he could how long it might take him, but they did all know that Barnes was one determined son of a bitch, and they weren’t going to get caught with their pants down and miss the call.

The conference room that had been commandeered for Pathfinder Command was crammed with computers, equipment and had little room left for the people required to control them. Tracking down personnel from the original Pathfinder mission had been harder than Rhodey had anticipated. It’d been almost thirty-six years since the link with the Lander had been lost and the team had disbanded and moved on to new projects, different departments or left NASA all together. A handful had died. A small, but dedicated, team in Houston, made up primarily of Pepper’s eager interns, hunted people down like bloodhounds thrilled to be finally doing something that wasn’t photocopying or fetching coffee or filing; if someone was in the country and available, they were booked on the next available flight or picked up by town car. If they weren’t available, they were made available. Half of them had arrived with little more than the clothes on their back and a toothbrush, eager to get down to the business at hand.

Nobody that witnessed this small group at work would have doubted it if they’d heard rumours of séances or necromancy.

Not a single living member of the original flight team had refused to return. Some had been unable through illness or personal circumstance been able to travel to California, but every single one had video-conferenced in every single day, helping with rebuilding their systems, the tech compiled half from records and half from memory, like they were rebuilding Colossus or something.

To NASA as a whole, the second Pathfinder mission was about establishing communication with Barnes. To the Pathfinder team, it was about that and discovering what had gone wrong with their beloved Lander. They were all incredibly proud to be the creators of the probe that would, after more than three months without contact, create a link between Mars and Earth. Sometimes Rhodey marvelled that their feet touched the ground at all.

Pathfinder was their miracle for a second time.

Only one journalist from the Associated Press had been granted access, the rest of the rabid press corps just having to make do with the AP livestream and waiting for the press conference that would follow.

If she were utterly honest, which she’d never fully be in the Press Room if she could help it, Pepper found reporters like Ben Urich to be amongst the greatest minds she’d ever come across and he had been an instant favourite of hers. The journalist was dogged in his pursuit of the truth, his articles thoroughly researched, sourced, and vetted. He demonstrated no personal agenda in his writing, and he was respectful to all those around him. Urich was not always kind to NASA in his articles, not always supportive of their objective or agenda, but he was always fair. She knew he’d been
assigned the beat, one that was considered insultingly dead and boring, as a punishment by his editor for some infraction or other – she’d never pry – but Pepper was eternally grateful that Urich, and his sharp mind, was present in her Press Room.

And Operations Control.

Pepper tried not to play favourites with her press corps, but there were always those to whom she looked first when she had an exclusive, those that she fed information to, or suggested they pursue a particular angle so long as they kept her name out of it.

Urich was almost always at the top of that list. Compared with the likes of Grant Ward and Christine Everhart, Pepper could have kissed Urich. Which was why he was present when Everhart, for all her much touted access to NASA, was not.

“God fucking damn it Bruce, you did it!” Ben yelled over the noise

“Just the Director,” replied Bruce, modest as ever as he called back, turning as best he could towards the reporter. “Thank the guys that got this going.”

“You and your team? Badass.”

Bruce laughed, the stress of the previous weeks falling away.

“Tell the team.”

“I’ll do more than that.” Ben gestured over his shoulder at the camera. At the cameraman with wide eyes wondering hoping like hell that the producers were running the stream on a five second delay to censor out all of the cursing that was going on around him.

“We’ll get to the team, Bruce. But first,” Rhodey curled his hand around the back of Bruce’s neck and squeezed one further congratulations, “I’m meeting my new best friend.”

Rhodey fought his way past a knot of people all clinging to each other and singing something he didn’t recognise, the group barely able to give voice to the lyrics with how wide their smiles were, until he could reach the side of a young tech sitting at a communications console, a headset almost hidden by her long hair.

“You got a name, new best friend?”

“Skye,” the young woman replied, her eyes never leaving her computer screen.

“So what now?”

“The return telemetry was sent automatically. Based on the positions of us and him right now, that’ll take eleven minutes to reach the Lander.” She glanced over her shoulder at Rhodey, looking him up and down, her head tilting to one side as she assessed him.

Rhodey had the feeling he was being weighed and measured and about to be found wanting.

Coming to her decision, Skye gave him a smile that Rhodey couldn’t but find condescending.

He should know, it was one he knew he used often enough.

“That’s because of the lag time created by the distance between Earth and Mars.” She narrowed her eyes at him as though unsure if he understood, before turning back to her screen.
“Once it does, *Pathfinder* will start transmissions with the high-gain. In 22 minutes we’ll hear from it again. We’ll go from there.”

“Rhodes has a doctorate in physics, Skye,” admonished Bruce, popping up at Rhodey’s side, emerging from the congratulations of everyone near him, looking rumpled and slightly on edge.

He wasn’t really a big people person, and he’d no doubt been back-slapped, hugged, and – from the nascent beard-burn appearing around his mouth – kissed aplenty in his journey from his desk to Skye’s.

“You don’t have to explain transmission times to him.”

Skye shrugged and winked. “You never know with Directors. Go to the right school, lead the right team, do all the ‘boy stuff’, shake the right palm, who knows what you guys know?”

“‘Scuse me?”

“I stand by it.”

So did Rhodey, if he was honest, but he wasn’t gonna tell Skye that. She already seemed a little too confident in her opinions, especially for someone who looked to about three seconds out of high school. Better to slap her down a little and smooth out some of the too-sharp edges he could sense she had.

She’d never progress in an organisation like NASA until she learned to be a better team player. There was no ‘I’ in NASA.

“What was in the transmission we received?” He asked, tapping her screen, earning the same huff of annoyance that he always got from Kate when he did the same to her computer.

“Hardware check. The non-functional readings are relating to the panel Barnes ripped off.”

“Asshole,” came the bitter response of a tech behind Rhodey’s left shoulder, those around him mumbling consolations. Rhodey didn’t have the time to deal with injured feelings.

“Camera?” He’d throttle Barnes himself if he’d somehow damaged it during his Indiana Jones routine.

“Claims it’s working. Soon as we can, we’ll take a picture. Then we’ll know.”

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**Log Entry: Sol 97**

*Fuck.*

Fuck me.

It worked.

It fucking worked.

It *worked.*
I’m not alone anymore.

I’m not alone.

This morning I could barely drag myself out of bed. I woke up and just… the thought of walking out of that airlock to the high-gain not having moved again, I couldn’t do that. Not after all I went through to bring *Pathfinder* home.

There would still be things to try, other failures of the tech that would have been a lot more involved for me to fix. I spent hours last night wondering if ripping the remaining panels off would allow me wrestle *Pathfinder* in through the airlock, and then I tore the damn Hab apart looking for my fucking tape measures and could only find the lazer digital ones, but a) I’m old school, and b) how the fuck do you measure something that’s round with a lazer?

This, and other things, was a question I maybe should have found the answer to before lift off.

Which would bring me to the other problem.

Lifting the Lander to get her into the Hab.

Even if I *could* get it to fit without potentially doing any damage, she’s not small. It ain’t gentlemanlike to comment on a lady’s weight, but *Pathfinder* is a big girl and she won’t be able to get a connection *inside* New Brooklyn. Which would mean that every time I needed to try something new, I’d have to take her back out, leave it a day, bring her back in, work some more, take her back out.

My back just spasmed thinking about all that hokey-cokey bullshit.

I really needed the extra time with the heater to work.

And going out that airlock would mean knowing. Lying in bed I could pretend it’d worked. Going out and seeing that it hadn’t…

But of course my girls looked down on me and judged my lazy ass. If it’d worked, I could have made contact in the time that I was wallowing and feeling sorry for myself. So I rolled out of bed, and headed straight to my suit.

I didn’t check my plants, I didn’t stop for breakfast, nothing to put off going outside for one more second. I strapped on my big boy pants, got suited up and spent several, horrific minutes in the airlock waiting for decompression so I could walk out and learn my fate.

I think I stopped breathing as I wrenched the external door open. There she was, right where I left. Actually, not quite right where I left her.

Not all of her, anyway.

The high-gain was angled directly at Earth.

I *definitely* stopped breathing.

Like I said, *Pathfinder* doesn’t know where that is. The only way it knew was because it got told. It’s not ust about *Pathfinder* talking to Earth.

The only way she can get told her position is if Earth deliberately transmits to *Pathfinder*. 
The only way Earth can deliberately transmit to *Pathfinder* is if they triangulate the position of the space noise being received by the Deep Space Network.

They *know*.

Earth knows I’m alive.

Someone is gonna be telling my girls that I didn’t die.

I can’t stop dancing around. Seriously, happiest of the happy dances. I’m cutting a rug up here. Any perverted Space Pirates that are watching my every move just got a serious eyeful of my best dance moves.

If you think someone looks ridiculous trying to run in a space suit, you ain’t seen nothing like someone trying to dance in one.

I’m good with looking like an idiot.

They know I’m *alive*.

I don’t even know what to say. This plan was *insane*. I tried so hard to not get my hopes up because I knew this plan was insane.

But it fucking worked.

I can talk to people again.

After three fucking months completely alone, I can talk to people again.

I don’t even care if what people say is ‘*what the fuck did you do this time, Barnes?’* I am ready and eager to hear it.

I still might not get rescued, but I won’t be alone when I die.

The whole time I was in that rover getting to and back from Ares Vallis, I wondered about how I’d feel if this worked. How I’d feel when – *if* – the high-gain moved to Earth. I thought I’d laugh until I was sick. I thought I’d jump up and down and punch the air and make like a footballer that just made a SuperBowl winning touchdown.

But that’s not what happened.

After I finished what must have looked like some sorta fucked up mating dance around *Pathfinder*, I walked calmly back into the Hab and took off my suit.

I hung it properly and stowed my helmet.

I wandered over into Barnes Farm, collapsed onto my ass by my plants in the dirt and wept.

Like a baby.

I buried my face in my hands and cried, my relief flooding out of me in a puddle of ridiculous tears, wrenching, ugly sobs until I was pretty sure I was gonna end up dangerously dehydrated if I didn’t stop it.

I felt broken open, exposed as a raw nerve, hollowed out and exhausted and elated.
I felt fucking awesome.

It took me a good minutes to rein it all in and dial it back to a sniffle.

Then it occurred to me that I need to be a little more careful with these logs now. They might actually get read now. And I have no idea how to delete the embarrassing shit I already did and didn’t sensor because I didn’t really ever imagine they’d get found or sent to Earth or that I’d be alive when they were seen.

But all that can wait.

Time to start talking to real people!

**February 16th**

*T plus fifteen minutes*

“I want to be very, very clear here, so listen up.” Pepper stood upon a folding table, towering over the crowd, balancing perfectly despite her stiletto heels and the rickety platform.

“This is how it’s going to go. There will be no ties. *Anybody* who wears a damn tie to *any* of the *Pathfinder* conferences will be kicked off this team right then, right there, and let me tell you, I am fond of particularly pointy shoes.” As though to demonstrate just how pointy, Pepper lifted the toes of one foot and repeatedly tapped it against the plastic, the eyes of everyone in the room dropped down to the stylish blood-red pumps, a number of them wincing.

“Works for Bruce,” a man close to Pepper’s table yelled. “He hasn’t worn a tie in over a decade. Probably need someone to tie it for him.”

“Screw you, Blonsky,” the man in question responded.

“Thank you, Doctor Blonsky,” Pepper interrupted any reply the engineer might have had.

“What for?”

“My list of those approved to go into the Press Room just got smaller. Means there’s fewer of you to have to wrangle. You may show yourself out now.”

“Excuse me?” Blonsky asked with a frown.

“Precisely my point, you *are* excused. Out. Now.”

“I’m going to need you to explain that to me.”

“You’ll find I don’t. I don’t have the time or the inclination. Don’t make me ask you to leave again.”

“That’s it? That’s all you’ve got for me?”

“It’s all you’re going to get. If you don’t leave by choice, I’ll have you removed.”

“With all due respect, Ms Potts-” Pepper’s eyes narrowed at how Blonsky emphasized her salutation, separating her from the majority of the room, 95% of them holding a minimum of one PhD – “but
you’re going to be needing the best team you can compile, one that is prepared-”

“Precisely, Doctor Blonsky. I need to prepare the team. You are no longer a part of that and are wasting my time and theirs.” Looking off to the side, Pepper nodded to someone by door, a ripple in the crowd an indicator of the person’s progress to the irate engineer’s side, Happy pinning Blonsky’s arms to his sides and bodily lifting him from the floor.

As the door slammed shut behind them, there was silence for three seconds before a cheer broke out.

February 16th
T plus thirty minutes

For once, Rhodey didn’t totally hate having to step in front of the assembled press. It was amazing how much having good news changed your perception of a room of sharks. For once he didn’t feel like chum.

For once he was the shark.

That or complete exhaustion was turbo-boosting his system and he was riding an adrenaline high that was going to crash in devastating, and likely embarrassing, fashion.

“Thirty minutes ago we received the high-gain response from Pathfinder.”

Just as Operations Controls had, the room transformed into noise, decorum forgotten, protocol forgotten as every journalist began yelling out their questions, and it took several minutes for Rhodey to restore order.

“The initial uplink has provided the Lander with Earth’s location and directed the high-gain at Earth. The second uplink, sent moments ago, includes directions for the Imager to begin to take a panoramic image. We’re hoping Barnes has some kind of message for us to see. Questions?”

Every single reporter thrust their hands into the air.

More than happy to skip over Christine Everhart, the journalist having moved her ‘studio’ to JPL for a special series of broadcasts given she’d already be getting one on ones with various tea members, Rhodey called on Jessica Jones.

“Let’s start with you,” Rhodey pointed to her.

“Has there been any contact with Sojourner?”

“No yet. The Lander has yet to be able to connect to the Sojourner and we have no way of communicating with it directly.”

“What could be wrong with the rover?”

“Can’t speculate to that at this time. It’s been on Mars a really long time; it could be anything. If the rover does not respond, now that we have a form of communication, we should be capable of helping Barnes with any repairs he might need to make.”

“You gotta be able to do better than that, Rhodes. Can’t you give me a guess or something?” Jessica pushed as she slouched down in her seat, clearly unimpressed.

“Our current best guess is that Barnes took it with him into the Hab when he tried to repair it.
Pathfinder herself is too large but Sojourner would have been easily taken inside. It’s much easier for Barnes to work on electronics that small and complicated in conditions that don’t involve wind and sand or gloves. If he has done that, the Lander signal wouldn’t be able to transmit through the Hab canvas. Now that the Lander has connected to Earth, our hope is that Sojourner will connect if Barnes brings it back outside.”

Jones opened her mouth to ask another question, but Rhodey turned away, calling on another reporter.

“Grant Ward, NBC News. How will you and Barnes be able to communicate once all systems are stable?”

“That is up to Barnes. All we have to work with is the camera on the Lander. He can write notes and hold them up, which we’ll see on the images, but our replies are more troublesome.”

“How?”

“Because all we have is the camera platform. It’s the only moving part. By rotating the platform we can get information across but we can’t communicate to Barnes that that is what we’re doing. We’re relying on him to come up with a system and tell us.”

“The Lander has no screens?”

Knowing full well that Pepper would kick his ass later, Rhodey just rolled his eyes. “Why would it have output screens? For the little green men?”

Rhodey pointed to another reporter.

“Next.”

“Monty Falsworth, BBC. The roundtrip of communication can be up to 42 minutes depending on the planetary positions, and with only the camera platform, will that not lead to a dreadfully slow conversation?”

“Yes,” Rhodey confirmed. “We’ll be at this all night – it may be 3am here but its early morning for Barnes. And that’s just the start.”

When he finished answering, everyone’s hands shot back into the air again, but Rhodey shook his head.

“No more questions for the moment. The panoramic is due in a few minutes and while you might not be able to be in the room, I don’t want to be anywhere else. We’ll keep you posted.”

To a roar of disappointment – and a fair few reporters calling him some less than complimentary names - Rhodey left the press room and strode to Pathfinder command, weaving his way through the throng of bodies to get to Skye’s console.

“Anything?”

“Oh, yeah. There’s been loads of action. But I’m making us stare at this black screen because its way more interesting than looking at images of Barnes.”

“You’re a smart-ass aren’t you?”

“It’s who I am.”
“I’m fucking surrounded,” Rhodey grumbled as he stared intently at the screen.

A ripple in the press of bodies desperate to see the first image revealed Bruce pushing his way to Rhodey’s side.

“It’s coming.”

Silence fell as they all waited.

“Getting something,” Skye announced, her voice loud in the hush, “and it’s the image.”

There was a mass exhale from everyone in the room. If the camera had become corrupted this would all have been for nothing.

One vertical stripe at a time, the image came through filling the screen.

“Mars surface…” Rhodey gave commentary under his breath. “More surface…”

“Did Mars ever look this good?” Someone yelled to cheers.

“Fuck me, that kid is good.”

“He’s not just good, he’s fucking lucky as shit. I tried that, I’d be dead within a day.”

“Because you’ve got two brain cells, moron.”

“I helped put the Lander up there in the first place!”

“Edge of Hab!” Someone at the back cried, interrupting what was likely to descend into chaos.

“Hab. More Hab. More Ha – that’s not Hab!”

“It’s a message,” Skye intoned, her smirk evident in her tone.

“You noticed that, huh?” Rhodey asked.

Little by little the image revealed a handwritten note, suspended in front of the camera by a metal rod.

“It’s a note from Barnes.”

“What were you expecting? Marvin the Martian?” Skye muttered, smiling when Rhodey gently cuff ed the back of her head.

“What does it say?” Asked someone at the back.

Rhodey leaned closer to Skye’s screen, ignoring Skye’s offer to find him some glasses, the young woman sure the old janitor had a pair she could borrow.

Rhodey certainly wasn’t going to admit to having utilised Stan’s glasses.

 Twice.

One day she’d be old too. Then he’d get the last laugh.

Or be dead.
“I’ll write questions here – Are you receiving me?”

“Oookay…that it?” Bruce asked.

“No, there’s more.” Skye pointed to the screen as the slow progression of the image revealed another note.

Rhodey read it out again. “Point here for yes.”

“I see where he’s going with this,” said Bruce with a smile.

“Third note.”

“Point here for no,” recited Rhodey. “Will check for answer.”

With a deep sigh, Rhodey crossed his arms over his chest and nodded. “Okay. Okay, we’ve got communications. Skye, turn the camera to ‘yes’.” He ignored her whispered ‘duh’ and continued. “Then start taking images every ten minutes until he puts up another question.”

While the room was abuzz with noise, half of them still ecstatically pointing at the screen and shouting out names for the various small rocks visible around the Lander, as well as the large craters that had been carved out around the Hab, seemingly several feet deep and metres across, the other half of the room, the engineering half, was pouring over the image on various smaller screens and tablets looking for problems with what they could see of Pathfinder. The missing panel, though many would never forgive Barnes for his destructive tendencies, was at least present and didn’t carry any necessary equipment for the Imager or antennae.

But it might be useful for parts while on the move. If Barnes was going to be driving to Schiaparelli, he was going to have to take Pathfinder with him and he wasn’t going to be able to take the Hab with him to charge it. If the team could figure out a way to reattach the panel and its all important expanse of solar panels, Barnes wouldn’t have to divert solar energy from his panels, from the rover batteries. Reattaching the panel would be key. It’d take some rewiring, run Pathfinder off the solar power directly rather than the battery, and they’d have to see if they could even angle the Imager acutely enough to take pictures of the panels and inner workings rather than rely on Barnes’ descriptions, but where there was a will, there was a way.

One long drive for Barnes, one giant leap for getting him home.

At the back of the room, unnoticed in the chaos, Kate slumped against the wall. She told herself the tremble in her legs was merely exhaustion, but she was wide awake despite it being 3:30am. Nobody in the room was tired. No, the trembling in her knees, the way her hands were every so slightly shaking, the burn at the back of her eyes, it was all the image up on screen.

She didn’t think she’d blinked from the moment the image had begun to render.

It was all those first four little words.

‘Are you receiving me?’

“Yeah, Bucky,” she whispered as she slid down the wall and folded up on the floor.

“We receive.”
Log Entry: Sol 97 (2)

They said yes.

They fucking said yes.

I’ve not been this excited to get a yes since I asked Rogers if he really wanted me on his team.

Has there ever been a more beautiful word than ‘yes’?

You hear that, Mars?? I’m the big man on this campus. Me. Not you.

Fuck you, Mars.

Okay, I gotta calm down. In a moment I’m gonna do something really fucking stupid and curse myself.

I have to figure out a way to communicate that will cut down on time with the limited resources I have. I only have 50 pieces of laminated card that were meant for labelling samples. I can use both sides and scratch out old questions – was a white board too much to ask for, NASA? - but it’s still not a lot.

I’ve got a Sharpie that’s gonna last a whole hell of a lot longer than the cards but does limit me to writing in the Hab. I dunno exactly what they use to make Sharpie ink, but I’m willing to bet that if exposed to the thin atmosphere of Mars it’ll evaporate or boil or some shit.

I did enjoy getting my revenge on the antennae array – what do you think is holding up the pieces of card to the camera? What?! The antennae is for communication. I’m usin’ it to communicate.

So that’s what I got. Pieces of card, a pen, some bits of metal and a camera. NASA and I are gonna have a lot to say to each other and not all of them are gonna be ‘yes’ or ‘no’ answers…

But I’m MacGyver, remember?

I could make an alphabet and hang each letter around the 360° of the camera but including the question card, that’s 27 cards. That’s only 13° between letters. That’s too small, I might make mistakes in determining which letter NASA is pointing at, and context might not always be helpful.

Besides, that doesn’t even include numbers and I’m gonna need those.

But there is something else I can try.

Back on Valkyrie on numerous occasions in the 124 joy filled days it took to get here, Natasha tried to demonstrate the use of ASCII to me and the rest of the crew. It’s only because I have her laptop that I can do it – she’s got no end of cheat-sheets for various computer codes and modes of communication.

ASCII is how computers handle characters. It’s a 7-bit series of characters that is assigned to each lower case and upper case English letter in the alphabet, as well as some symbols. Yeah, yeah, I know, 8-bit byte became the standard way that computer hardware was built, but you can store 128 different numbers per 7-bit number and with all the numbers and letters and symbols, that only comes to about 90-something, so 7-bit is more than enough and the 8th bit is used as a parity bit to detect transmission errors. Sure, eventually the 7-bit became limited and an 8th bit variation was used to extend it all, but I’m gonna go with good ole fashioned 7 seeing as how NASA and I are gonna be only needing to communicate in English – my French is still for shit.
Natasha can talk about this shit for hours.

The woman needs to get laid.

Although what does it say about me that I’m remembering this shit even months later?

If you take all the characters you can type, and number them 0-255. I bet you’re thinking you can’t think of many past about 50.

You lack imagination.

Look at your computer keyboard. Look at all those characters and symbols and numbers. They add up to a lot. Values between 0 and 255 can be expressed as 2 hexadecimal digits. By giving me pairs of hex digits, NASA can send any character they like, including punctuation, numbers, all of it.

You’re all looking at me funny, aren’t you?

It’s like this.

A-Z and numbers and punctuation are assigned a numerical value. For letters, it’s different if the letter is capitalized or not. So lowercase ‘a’ is 097 while uppercase ‘A’ is 065 in ASCII.

Hexadecimal is a fancy way of saying that instead of usual maths which has a base of ten, the base is sixteen. For anyone that still doesn’t get it, that means it uses 16 sequential numbers as base units (including 0) before adding a new position for the next number. The hexadecimal numbers are 0-9 and then use the letters A-F, because hex digits aren’t actually just digits. Hex digits can be 2 numbers or a number and a letter. So lowercase ‘a’ is represented as ‘61’ and uppercase would be ‘41’. An example with a letter in it would be uppercase ‘Z’. It’s represented by ‘5A’.

I’m making it worse, right?

Okay, I’ll try again.

Hexadecimal is a convenient way to express binary numbers, which is good seeing as how computers communicate through binary. Everything you type, everything you send, everything is simplified into text, into binary, sent as electrical pulses, translated at the other end and tada, pictures and colours and shapes appear.

It’s like magic.

You with me?

No?

Don’t worry about it.

Here at Mars U we don’t believe in exams.

Fuck knows that without the cheat-sheet I’d be flying blind.

What the fuck is wrong with Natasha that she enjoys this shit?

Is it the same thing that makes her wanna get in Barton’s pants? It’s gotta be, right?

All you need to know is that it’ll only take me 16 cards to mark 0-9 and A-F and another for my question card. That means 21* are between each card.
Way less likely to make a mistake.

Time for more arts and crafts.

‘Spell with ASCII. 0-F at 21° increments. Current Imager position is 0°. Will watch camera from 11:00 my time. When message complete return to question card. Wait 20 minutes before taking picture. Need reply time. Repeat process at top of hour.

**February 16th**
*T plus sixty-eight minutes*

“He’s using ASCII?” Skye asked, twisting in her seat to look at Rhodey. “How you gonna make it exact enough?”

“We’re gonna get her sister out of storage.”

“There’s a *Pathfinder* part deux?”

“You’re so young,” Bruce grumbled next to Rhodey. “There’s a fully practical museum model. Everything is the same except she runs off the mains and her solar panels are fake. Well, that and the LED lights. The one on Mars doesn’t have those. We wanted them but they were hard to qualify for the Mars environment.”

“How did I not know this?”

“Because my *car* is older than you.”

“I’m not that-” Skye yelled at Bruce’s departing back, the engineer rounding up a group of scientists.

“The room next door is free,” Rhodey called after them.

“I’m *not* that young. I just moisturise.”

“You’re an infant,” Rhodey told her. “With zero attention skills.”

“Hey!”

“How long have you worked here?”

Skye frowned. “About a year.”

“You come in the North entrance or the South?”

“South, it’s got better parking and the security guard is *really* attractive.”

“So instead of paying attention to where you were, you were looking at him?”

“So?”

“It would explain how you’ve walked past a massive Lander on a raised platform and not noticed for a year.”

Skye blinked at him.
“Huh.”

**February 16th**  
*T plus three hours*

“Good evening, and welcome to a very special edition of the *Barnes Report*. NASA has confirmed that they established communication with stranded astronaut James Barnes early yesterday morning, and in these images, released exclusively to us here at CNN, we can see, for the first time, that Barnes is alive and well, growing crops and missing his mother and sister.

“So far no images have been taken of Barnes himself. Due to the distance between Earth and Mars, there is a time lag between the images being taken, and them being received here, Barnes likely limits his time outside, going inside to write answer and then posting them by the Lander. But we hope that in the coming hours Barnes will make an appearance in one or more of these incredible images.

“Join us in an hour for another special *Barnes Report* when an expert will explain how NASA is communicating with Barnes using the only tool at their disposal – the camera on the *Pathfinder* probe. We will also have Doctor Helen Cho with us to discuss what could possibly be the long term concerns of any injuries he might have sustained from the accident. We’ll see you then.”

**Log Entry: Sol 97 (3)**

*S...T...A...T...U...S...*  

No physical problems. Small issue w/arm from array. Am okay. Hab fully functional. On ¾ rations. Successfully growing potato crop w/cultivated soil. **NOTE: ACCIDENT NOT CREW’S FAULT. JUST BAD LUCK.**

*H...O...W...A...L...I...V...E...?*


*C...R...I...N...O...U...R...S...O...J...U...R...N...E...R...*  

Sojourner out. By Lander. If you can contact it, I can write hex #s on wheels. Send 6 bytes at a time.

*S...O...J...O...N...E...R...S...P...O...N...D*

Shit. Other ideas? Need faster chats.
February 16th

*T* plus nine hours

“I’ve had two hours sleep,” Rhodey warned the young man standing in front of the desk he’d commandeered. The man took a step backwards and glanced over his shoulder at someone Rhodey couldn’t see. He looked familiar but Rhodey had met so many people at JPL that they were all blurring together. No sleep and lots of coffee could do that to a person.

“Umm. Uh, I could come back another-”

“No you couldn’t, Fitz!” A woman came to stand next to…oh not again. What had he done to deserve this?

“How’d you two get here?”

“Uh, we flew. That is we took a plane, we ourselves didn’t actually fly. Well, we did, but-”

“Stop.”

“Sorry, sir.”

“Why did you come here?

“Well, we were talking with a friend here, and she told us about the communication issue, and we put some thought into it and we spoke to our superior and he sen-”

“Your idea, today, please.”

“We were all looking through the old *Pathfinder* software, and the team here constructed duplicate computers up and ready for testing. The same computers that were used to find an issue that almost killed the original mission.”

“It’s interesting actually,” Fitz interrupted, “it turned out there was a priority inversion in the thread management, which was such a ridic-”

“A little bit of focus would make me very happy.” Rhodey reached for his coffee cup only to find it empty.

“I told you this was a bad idea,” Fitz hissed to his partner, not noticing how Rhodey expression changed from interest to something more akin to frustration mixed with the desire to commit homicide. “I was tucked up nice and happy in Houston and you just had to speak to Skye and make us fly-”

“Oh please,” Simmons derided, “I didn’t force you to do anything! As if I even could! You’re the one that had the idea with the-”

“Shut it down,” Rhodey ordered, lifting a hand for silence before rubbing at his temple.

“What they’re trying to say,” Skye stepped up to the group, headset still firmly planted on her head
with the lead wrapped around her neck like a scarf, “is that Pathfinder has an OS update process. We can change the software to whatever we want.”

“That helps us how?” Rhodey got to his feet and headed across the room to the coffee machines. The room had, a week ago, only held one small machine. Now, to keep up with the increased demand, three machines sat by side, running 24/7 and were barely able to keep up. Not refilling the coffee pot after draining the last drop had rapidly become a crime punishable by death.

The trio followed him like little ducklings.

Which meant they were squawking at him.

“Pathfinder has two communications systems,” Simmons offered. “One to talk to us and the other to talk to Sojourner. We can change that second system to broadcast on the signal of the Ares 3 rovers, pretending to be the beacon from the Hab. It’s quite ingenious really; we talk to the Lander, it talks to the franken-rover pretending to be the Hab!” She smiled brightly at Rhodey, her expression dimming only slightly when Rhodey didn’t return it.

“You can get Pathfinder to talk to the rover?” Rhodey filled his coffee cup to the brim, taking a sip and possibly destroying the last few taste-buds that had survived the last few weeks of truly shit coffee and worse takeout.

Which reminded him that he didn’t remember the last time he ate. He should probably do that.

“In future, you might wanna lead with that,” Rhodey advised. “That you got a faster way to talk to him.”

“It’s the only option,” Fitz confirmed. “The Hab’s radio is toast. Really incinerated toast. Well, toast ashes more like. But there’s a problem.”

Rhodey sighed. “Of course there is.”

“It’s a real bummer.” Skye took over, pouring a coffee of her own and doctoring it with an obscene amount of milk and sugar. Oh to be young. “All the rover does is triangulate the signal from the Hab to figure out where the hell it is in relation to the Hab. It doesn’t talk to the Hab. The only channel it’s got, is to let the astronauts talk to each other.”

Rhodey took a mouthful of disgusting, necessary coffee and quelled his homicidal tendencies.

“So Pathfinder can talk to the rover but the rover can’t talk to Pathfinder.”

“Exactly.” Simmons looked delighted that Rhodey was keeping up, which was a little insulting really. Okay, he was an astrophysicist and not a tech geek but still, he was a Director. In NASA. The young really needed to learn respect.

And how to get to the point more quickly. Pepper should host a seminar.

“What we want is for our text to show up on the rover’s screen and what he types to show here.”

“That requires a software change,” Skye finished.

“Which we can’t do because we can’t talk to the rover.”

“But it’s not a total loss,” Skye began, only to be interrupted by Simmons.
“We can talk to Barnes.” Simmons looked half a second from clapping her hands in excitement.

“We send him the data, he enters it and boom, we’re talking to Mars again,” Fitz poured his own cup of coffee, making a face at the taste. “Much faster than we are now because at this rate Barnes will be dead before—”

“Fitz!” Simmons and Skye yelled together.

Rhodey had planned to push some sugar and creamer packets over towards the Scot, knowing that unlike Skye he’d never reach across a Director to get a hold of them for himself. Now he thought better of it, even if the other man was making eyes at the only hope of improving his coffee.

“It gets better.”

“Does it?”

“Or maybe your taste-buds just die. Get used to it, kid.”

“Does that mean we’re staying?” Simmons asked, a hint of hope in her voice.

“What do you think?”

“I think you’re three seconds from killing us,” Fitz answered honestly, showing a degree of self-awareness Rhodey was impressed enough by that he rewarded him with a packet of sugar.

Just the one, though.

“How much data would we have to send him?” Rhodey asked, instead of addressing Fitz’s concern.

Skye winced, like she’d been hoping he wouldn’t ask that.

“About 20mb. Minimum. At the current rate, it’d take 3 years to send that.”

“I’m so glad you’re telling me all this. It’s really making my day.” Topping up his cup, Rhodey made his way back to the desk, ducklings in his wake.

“But we have an idea,” Fitz said from the back.

“Are you going to get to it at any time?”

“Us software geeks are sneaky bastards. Right now,” Skye said conspiratorially, “the rover parses the signal as bytes and identifies the Hab’s sequence so it can ignore any interference from natural radio waves. Bytes that aren’t right are ignored.”

Rhodey sighed deeply.

“That means,” Skye continued more quickly, “there’s a spot in the code-base where it’s got parsed bytes. We insert a tiny bit of code. Just 20 instructions to write those parsed bytes to a log file before checking their validity.”

“Right.”

“First we update Pathfinder with our new OS. Then we instruct Barnes how to hack the rover’s software to add those 20 instructions. We broadcast the rover’s patch to Pathfinder. Pathfinder sends it to the rover. The rover logs those bytes to a log-file. Then all Barnes has to do is launch the file as an executable and the patch is done!”
“We, uh, we thought you’d be excited. Or you know, happy? You are happy, right? Sir? Fitz, do something.”

“What do you want me to do?”

“I don’t know! He’s just…why isn’t he happy?”

“I know what you know Jemma!”

“I knew we shouldn’t have come.”

“You did not! This was your idea.”

“Guys, shut it.”

“What? We’re not doing anything!”

“Seriously, I think he might explode. Or kill you,” hissed Skye.

“Well that’s just ridiculous. We’d likely be killed if he were to explode anyway, and besides, stories of human combustion are anecdotal at best and it’d be more of a smoulder than a bang – ow!”

All three fell silent. Which was about twenty minutes too late for Rhodey’s headache.

“All we need to do is send Barnes those 20 instructions?” He asked.

“That and a few instructions on how to hack, which thankfully, I am a whizz at,” Skye’s smile was wide. “That, and where to insert the instructions in the files.”

“And that’s it.”

“That’s it.”

“I’ll take it.”

“Take what?”

“The patch. When will it be ready?”

“Few hours?” Skye declared with confidence edging into her tone. If there was one thing she knew, it was code. Rhodey stared at her in silence so long she began to fidget, glancing at her friends for help.

“Don’t take this the wrong way,” Rhodey began, “or sue me or anything, but I’m three seconds from kissing each and every one of you.”

Fitz looked alarmed.

Skye looked amused.

Simmons looked excited at the prospect.
February 16th

T plus seventeen and a half hours

“What are you – there’s no 267 in the sequence?”

“Right.”

“But are you still getting the redlines from the 05 and 07 sequences?”

“05 had some strangeness but what’s wrong with 07?”

“Extra receive.”

“Oh, yeah, that’s fine. Have you seen this?”

“The low DPT?”

“Anybody figure out why 08 fires into a low DPT?”

Pepper’s eyes darted from side to side as she watched the conversation with zero comprehension of what was happening.

It might as well have been rocket science.

Making a decision that it was better to understand what was going on than it was to protect her pride, she leaned back in her chair, and reached across Bruce’s back to tap Rhodey on the shoulder.

Her friend jolted upright, almost as asleep as Bruce, turning bleary eyes at Pepper.

“Huh?”

“What’s happening?” She hissed, jerking her pen towards the group of young engineers, the trio passing notes and tablets and reports back and forth, the petite Englishwoman periodically jumping up to scribble on a whiteboard she’d dug up from God alone knew where.

“Huh?”

“What is happening?”

Rhodey smacked his lips together, grimacing at the taste in his mouth as he rubbed the heels of his hands into his eyes. Leaning back in his chair he took in the scene on the other side of the table and frowned at the whiteboard. Looking down to his notes, Rhodey trailed one hand down the page, flipping it over and scanning down the next, glancing back up at the whiteboard and then over to Pepper.

“Command Approval Meeting,” he offered, his words almost a question.

“That much I’d already gathered.”

“I don’t-”

“What are they talking about?”

“Hmmm?” Rhodey blinked at her, head nodding down to his chest as he began to succumb to sleep once again. Steeling herself against the desire to let her friend sleep, Pepper jabbed him in the side
with her pen.

She wasn’t completely heartless, she retracted the nib first.

“Ah!” Rhodey jumped. “What the hell, Pepp?”

“You’re meant to be my translator.”

Rhodey rubbed at his injured ribs with a scowl and jerked his chin at Bruce. “Why didn’t he get the pen treatment?”

“I’m not Tony,” Pepper retorted, clearly affronted.

“That makes no sense.”

“Neither does that!” Pepper gestured to where Skye was now standing next to Jemma, the two battling over the different coloured markers, the board awash with nonsensical abbreviations and letters that Pepper was entirely sure weren’t actually from the English alphabet.

“What is a trim/strip?” Pepper asked, reading the phrase off her notes, Rhodey trying to peek over Bruce’s back at the list.

“It removes leading and trailing whitespace,” Rhodey answered automatically, still rubbing at his wound.

“Which brings me to *what is leading and trailing whitespace?*”

“The space between Tony’s ears,” Bruce mumbled as he surfaced from whatever dream he’d been enjoying and shifted into a more comfortable position, a dark red imprint of the spiral binding of his notebook vivid against his cheek as he shifted his head to get a crick in the other side of his neck.

By the time Rhodey pat him on the shoulder, the other engineer was already back to sleep, mouth falling lax as his breathing deepened. Rhodey felt a flash of guilt; they’d all been run ragged for weeks now, but nobody had been pushed as hard as the crew at JPL and now with communication re-established, their load had increased. Who knew when Bruce had last seen sleep.

“When did you lose them?” Rhodey asked Pepper, pointing at the trio.

“Around the time Bruce started snoring.”

About ten seconds into the meeting.

“You want the High School version of this or the Kindergarten?”

Pepper thought about it for a second, reading over her notes again before throwing all pride out the window.

“Kindergarten, please.”

*Pathfinder* and *Sojourner* are complicated, but they don’t do anything we don’t tell them to. We program them and they do what they’re told.”

“Can’t Barnes-”

“The only people that can control the Lander and rover are us. He’s got no interface up there. The Lander is awake but she’s got no commands, she has to be told what to do tomorrow and that’s
where these guys come in. They’ve been writing the sequences to get *Pathfinder* to talk to the rover which would make our lives a hell of a lot faster.”

“They’re writing code to hack the rover.”

“Close enough.”

“Then why are you and Sleepy here?”

“The CAM is the last meeting to make sure that all the sequences are going the way they’re meant to before the uplink.”

“What happens if they’re not?”

“We re-write them,” came an English voice. “Sorry,” Jemma offered when the two Directors looked her way. “I wasn’t eavesdropping, honestly I wasn’t, but it’s a small room and,” she flapped her hands in the space between the two factions. Rhodey tried not to feel too ancient when it was evident that his side of the table, the table seeped in experience was also suffering from exhaustion, while the new kids, with their three seconds of experience were bouncing off the walls. Except, the Scottish guy who was a little more reserved, but his pen was scratching so fast across his notebook that Pepper wasn’t entirely convinced he could be writing actual words.

“That then gets sent to *Pathfinder*?”

“The patch, yeah.”

“Which will let us communicate with him through text?” Pepper made a note.

“Were you here for the presentation?” The man piped up without looking up. “All these questions are interrupting my concentration.”

“Fitz!” Skye reached out and slapped him on the shoulder, leaving a bright smear of red marker across his check shirt as Jemma turned wide eyes to Pepper.

“He didn’t mean that Ma’am. He’s just…he’s not good with people, you see. Machines and robots, those he can do, but people-” Jemma screwed up her face, “- he’s not so good with those.”

“Because they’re messy,” Fitz dismissed, the argument a longstanding one judging by how Jemma rolled her eyes and turned back to the board. “Technology is clean. It’s graceful. It doesn’t bring dead things into the lab.”

“That was once, Fitz. Once! And it wasn’t dead, it was cremated.”

“Isn’t that dead?” Rhodey asked Pepper in a whisper.

“I hope so,” she replied, before raising her voice to interrupt what was rapidly devolving into nonsense between the two British engineers.

“Skye, Doctor Simmons, please come and find me when you’re done. I want you both to stand in on the press conference about the uplink. For now the pressers will be covering both science and engineering. I’ll need to get you prepped and dressed.”

“I have clothes,” Skye gestured at her low-cut tank and ripped up skinny jeans.

“No,” Pepper refuted, “Doctor Simmons has clothes.” Pepper gestured at the sharp blazer and crisply ironed blouse beneath, paired with smart slacks. “That is acceptable. This,” she pointed her pen at
Skye, “is not.”

“You really suck the fun out of communicating with a dead man, you know that?”

February 16th
T plus eighteen hours

“The last time we spoke, Doctor Garner—” Christine broke off and turned to camera and spoke directly into it. “—And for those viewers that have missed previous episodes, you can head to the webpage at the address on the ribbon at the bottom of your screen and watch past episodes.” She turned back to Garner. “Last time we spoke, we discussed how Barnes might be coping with the isolation and how it would affect his psyche, and I noticed that you didn’t mention Christopher Thomas Knight.”

Garner looked at Christine without a word, waiting for her to fill the silence with clues as to whatever trap she wanted him to fall into. Everhart, or someone from her team had clearly been doing a little research since their last meeting and wanted to corner him on something or other.

It was so much more convenient to just wait them out and have them tell him what it was they wanted.

Everyone did eventually.

She turned back to the camera. “To those viewers who don’t know, Christopher Knight was known as ‘The Last True Hermit’, living in isolation in the woods for nearly thirty years. He survived on what he could steal from the houses of other people, but never when anyone was at home. As a result, he didn’t talk to, touch, spend time with, or interact in any way with people for 27 years. What would you say about how what was learned from his case, would be applicable to that of Barnes’, now that NASA has finally managed to restore communication?”

Ignoring the not so subtle dig, Andrew gave her the answer he knew she didn’t want. It didn’t make for good television.

“I would say that that was a very different situation.”

“How so, Doctor Garner?”

Andrew stared at her as though he considered it blatantly obvious, a dark part of him thrilling at how her nostrils flared in annoyance. The Everhart brand had recently been built upon how adversarial her show could become, often devolving from a barely contained debate into a farce, guests losing all composure no matter how hard they tried, goaded and prodded into a screaming match in their desperation to be heard.

It was a little insulting actually, Andrew mused as he waited, making a bet in his head precisely how long the journalist would last. Dead air was antithesis to good television.

“For a start, while Knight lived off the land, there was vegetation and food for him to access. Barnes doesn’t have that. Knight could breathe without a suit and without worry that a machine would break down. Barnes doesn’t have that. Knight did in fact have interaction in that time of isolation, though it was claimed to only be once. Barnes has experienced the truest form of isolation any person has ever endured.

“And most importantly,” Garner continued as Christine tried to interject, talking over her until she
gave up with ill-grace and allowed him to finish his thought, “Knight could change his mind. At any time, any moment, Knight could walk out of the woods and make conversation with anyone he wanted. He made the choice to withdraw from society and he could have chosen to return. Buck – Barnes – did not.”

“One could argue he chose to leave society to go to Mars.”

“One wouldn’t though.” Garner’s tone left no doubt that he certainly didn’t.

“No?”

“No. He choose to be a part of a team, to be a part of a group. One that was in constant communication with Earth, with their friends and family. He did not choose solitude. He didn’t choose isolation. He didn’t choose to be alone.”

“But speaking of Mr. Knight-”

“Are we still?” Garner asked with a sigh.

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**February 17th**

*February 17th*

*T plus twenty-four hours*

“I need a picture of Bucky.”

“Good morning Pepper. Is it morning? I haven’t seen a window in a while. Is it night? What day is it?”

“Rhodey. I need the picture.”

“Not that simple, Pep.”

“You’re talking to him through a camera. How hard is it to get a picture?”

“Pep, we spell out our messages once an hour at the top of the hour. Barnes then goes inside to write his answer and we wait 20 minutes to take another. He’s got a limited number of CO filters up there, and a long time to stretch them for. He’s not just hanging out on the surface waiting for us to go Annie Leibovitz on him.”

“Tell him to wait and be in the picture when you take the image of his answer.”

“We can only send questions once an hour during the hours of daylight. We can’t risk wasting two hours just for a picture. He’ll be in his EVA suit. You won’t see his face.”

“I need something, Rhodey. You’ve been in contact for about 24 hours. I’ve tried to keep the worst of the press away from your heels but I need something. I need a picture.”

“Use the pictures of his notes.”

“Not enough and you know it. I’ve got the press hounding my every waking moment, and most of the sleeping ones. They’re snapping on my heels so much I’m starting to think I’ve got to carry band-aids in my purse.”
“I know you, Pepper. You already do.” She was the most organised woman in the world. How she fit enough stuff to make Mary Poppins look like she travelled light, into the latest Prada or Gucci or whatever the hell it was she carried, Rhodey would never know.

He suspected quantum physics were in play.

“It’s going to have to wait a few days. We’re going to need the time to link *Pathfinder* to the rover.”

“It can’t wait. This is the biggest story in the world. Barnes is alive and we’re back in contact. The public are going nuts. If the press don’t get what they want from me, they’ll start to bypass me and come straight at you. I won’t be able to protect you. They’ll start to question whether it’s true. The public will think you’re all hiding something and turn against you. We need the public’s support Rhodey. You know that. We’ll never get him home without it.”

He really hated that she was right.

“I’ll see what I can do tomorrow.”

“I look forward to it. And it’s night-time by the way, and you’ve really got to get outside, get some fresh air. Get some sleep.”

“Which do you want me to do?” He asked. “Get some sleep or go outside?” But he was talking to dead air.

**Log Entry: Sol 98**

Do you know how mind numbing this is?

I really hope NASA with their eggheads and coffee – hmmmm coffee – figure out a better system soon ‘cos the camera ‘spelling’ shit out half a byte at a time gets old, real quick.

I don’t wanna sound ungrateful. I’m communicating with Earth, I’m thrilled. Really. But at this rate I’ll die before this gets me anywhere. I mean, what if something happened and I had to ask their help. I can’t sit scratching out hex numbers in the dirt and slowly getting their answer.

No way.

You might ask why I’m scratching their answers into the dirt.

I’ve got limited paper, right? No pencil. Pens won’t work, chances are. So I gotta do something with ‘em. That takes a couple seconds to do though, so sometimes, when I look up, I’ve missed some of the next letter. Generally context lets me figure it out, but sometimes I’m totally clueless.

Today I was like a kid on Christmas morning – I was up at the ass-crack of dawn, which was kinda stupid ‘cos nothing was gonna happen until 08:00 but I couldn’t sleep any more. Besides, this communicating by snail thing we got going is eating into the time I have to care for my plants and the Hab so I gotta do that some time.

I bounced out of the Hab when the time finally came and plunked myself down to receive the first message of the day!

*CNHKRVR2TLK2PTHFNDR.PRP4LNGMSG*
Sure, NASA, I’ll get right on that.

What the fuck?

I sat there for a minute and tried to work it out.

‘Can hack rover to talk to Pathfinder. Prepare for long message.’

Hell yeah!

That’s better than I coulda hoped for. Way better than using Sojourner, the non-functioning paper-weight that it was. Yesterday after the high-gain moved I brought my little rover friend out onto the surface, hoping that now it was charged – or hopefully – that it’d burst to life and become the lil dog I always wanted.

It didn’t.

I thought maybe it was the power, so I hooked it straight into a solar panel, but there was nothing.

It wasn’t a dog, it was a dodo.

But it’s still cute as fuck so I took it back inside and it’s now a potato-dog. I don’t see my crop making a run for it, but just in case, Sojourner is ready to chase ‘em down.

It’s safe to say I got communications back just in time – I have fucking lost my mind that that all made sense to me.

I rigged up my reply card with ‘Roger’ on it and stuck it in front of the Imager.

I didn’t know what they meant by a long message but I smoothed out as large a section of the surrounding dirt as I could and fetched the longest antennae piece I had to write with.

Then I waited.

Exactly on the hour the message began to come through.

`LNCHhexiditONRVRCMP,OPENFILE-/usr/lib/habcomm.so-SCROLLTILIDXONLFTIS:2AAE5,OVRWRT141BYTSWTHDATAWE’LLSNDNXTMSG,STW4NXTPIC20MINFTERTHSDONE`

Jesus fuckin’ wept.

Okay, they want me to launch hexedit on the rover’s computer and then open the file at `usr/lib/habcomm.so`, scroll down until the index on the left is `2AAE5` and then replace the bytes there with a 141 byte sequence that they’re sending in the next message.

For some reason they also want me to hang around for the next picture. Dunno why, it’s not like you can see any part of me, even my face when I’m in this suit.

Still, they’re the ones hopefully gonna get me home so they get what they want.

Dance, monkey, dance.

I went back inside and wrote the message down for future reference.

Then I wrote a reply and headed back out. Normally I just pin the note up and go back in, but this
time I help onto it, holding my other hand up with the palm towards the camer and smiling broadly, even though I knew it wouldn’t get seen.

My note said, ‘I aten’t dead.

I blame Granny Weatherwax.

**February 17th**

* T plus twenty-seven hours

“What is he on up there?”

“Huh?” Rhodey asked, rubbing drool off his cheek. He’d fallen asleep at his desk, for what was not the first, second or third time that week, and Pepper’s call had woken him up. His head hurt, his neck ached and there was cooling drool running down his neck.

He didn’t have the mental processes right then to figure out what his friend was talking about.

He was fucking impressed he’d managed to scrape together the brain cells to figure out how to answer the damn phone.

Although that might have been muscle memory.

Or just a reflexive desire to make the cacophony of horror stop. He had to figure out how to keep Tony out of his damn phone. How on Earth did the asshole manage to hack his office phone to an obnoxious ringtone? Shouldn’t it just freaking ring?

Rhodey liked classic Bowie as much as the next guy, more maybe but even he had limits.

“Bucky’s picture.”

“Oh. That. A couple people here think he’s been reading the *Discworld* series. Apparently Wade recommended them or something. He’s pretty proud of himself right now. Keeps sending me selfies with a printout of the image.” Rhodey’s cell beeped and he fumbled for it with his free hand.

“Speak of the Devil. He wants to know if we consider the picture to be a selfie and if it’s therefore the first selfie on Mars.”

“Oh God.”

“You know that’s what the press are gonna call it. Besides, it looks good. I’m sure the public are eating it up.”

“Why would he quote the *Discworld*?”

“Have you met James Barnes?”

There were a few seconds of silence before Pepper conceded.

“I see your point.”

“Is there anything else?” While he’d slept someone had dropped even more schematics off on his desk, and he dragged the closest set to him, ignoring the beep of his cell with no doubt another message from Wade.
What had he ever done to deserve Wilson getting his personal cell number?

“Is he flashing a peace sign?”

“What?” Pepper sounded affronted at Rhodey’s startled laughter, a tired patience entering her tone that normally was only saved for Tony.

“It’s the Vulcan salute.”

“The Vulcan what? I can’t use the picture if he’s flashing some sort of obscenity or gang sign or something!”

“Gang sign?”

“What?” Pepper looked adorably lost and confused, an expression that was rapidly morphing into one of annoyance and irritation.

“Live long and prosper.”

“Excuse me?”

“Star Trek.”

Pepper rolled her eyes and heaved a sigh.

“Rhodey…”

“How have you lived with Tony all this time?”

“Endless patience, selective hearing, and martinis.”

“Sounds about right. Can I go back to sleep now?”

“I’m going to need a picture of his face.”

“Can’t do that.”

“Why not?”

“Because if he takes his helmet off, he’ll die, Pep. Look, I got you your shot, I gotta go.” He hung up on what was no doubt another request for Barnes’ face.

He was thirty seconds into reading the documents when someone blocked the light.

He looked up into Jemma Simmon’s bright, happy face.

“What can I do for you now?”

“We’ve been thinking.”

“I’d be shocked if you ever stopped.”

“The hack for the rover is going to be detailed. Quite, quite detailed. It might require some back and forth communication between us and Mars.”

“That’s fine. Take your time, get it right.”
“There is another way, Sir.”

“I’m listening.”

“Reducing the transmission time between him and us.”

“You planning on moving us closer to Mars, Doctor Simmons?”

“Us? No, preposterous idea, no, our placement within the Solar System is controlled by-”

“Doctor Simmons.”

“Not us. Valkyrie. Right now it’s only 4 light-minutes from Barnes. Romanoff is a world-class programmer. Really one of the best in the world. And a woman, which personally I find rather refreshing working here, given I’m completely outnumbered by men. She could beat most of the men in this room and she and Barnes already work so-”

“No. Out of the question.”

“She’s mission Sysop. This is her area of expertise.”

“Can’t do it. The crew doesn’t know.”

“What is wrong with you people? Why don’t you tell them? This is cruel.”

“Doctor Simmons. James Barnes is not my only responsibility. The five people aboard Valkyrie are in deep space, they need to concentrate on their return journey. Nobody likes to think about this, but right now, they’re statistically in more danger than Barnes. I need to protect them. Regardless of my personal feelings on the matter.”

Simmons dropped her head, her jaw working.

“You’re right, Sir. I apologise. We’ll cope with the slow transmission.”

Log Entry: Sol 92 (2)

Ever transcribed 141 bytes of data ½ a byte at a time?

It’s time consuming.

It’s boring.

And when you don’t have a pen it’s tricky as shit.

Earlier, I just scratched the messages out into the dirt with part of an antennae. But with the long message I needed to be able to fit them onto something portable because I needed to get it into the rover to carry out the hack.

Pen and card was out.

So I did what all technologically-minded people – and anyone under the age of about 40 – immediately do.
I grabbed a laptop.

Each crewman had their own laptop. So there were six at my disposal.

Now there are five.

I had assumed that the laptop would be okay in the short-term outside. It’d stay warm for the length of time I’d need it and it is just electronics – it doesn’t need air.

It died before I even got out the airlock.

Stop laughing, you assholes.

Bet you’ve seen the issue.

For the idiots at the back, I’ll fill you in.

LCD stands for Liquid Crystal Display.

It either froze or boiled off.

That’s a consumer product review right there.

‘If you are a traveller, this isn’t the product for you. Brought product to surface of Mars. Did not work. 0/10, would not purchase again.’

Of course if it was like so many fucking useless reviews on Amazon, it’d probably be more like:

‘Used a PC for years but got a new job that required travel so got a laptop. Took it to the surface of Mars and it DIED. I don’t know if all brands are the same, but I never had this problem with a PC. If I’d taken the PC to Mars I’m sure it would have been fine. I contacted the company and they claimed that travel to Mars wasn’t even in the warranty and refused to refund me my money. I’m going to sue.’

Paradoxically, the review would then have five stars.

Do I really wanna return to an Earth with people that leave Amazon reviews of 1 star only to say it was a gift so they have no idea what it was like?

On the other hand, some of those reviews are hilarious.

But getting back to the whole returning me to Earth plan, I broke out a camera.

I’ve got a lot of them, all specially made not to do what the laptop did. They got a pretty little case kinda like something you’d put a phone in to use underwater. Why didn’t someone make those for the laptops?

I know.

Because it would have been fucking useful.

I wrote the bytes down in the dirt and took photographs and transcribed them in the Hab.

It took forever to get all the message through, but it’s finished, just before dark which was good and so tomorrow, I’ll enter it all into the rover and the eggheads at JPL can do their thing.
I hope this works, because this Speak & Spell bullshit is getting boring.

**February 17th**  
*T plus twenty-eight hours*

“What’s it like?” Isaiah asked as Kate switched the phone from one hand to the other so she could root around in her pocket for her new IDs. She’d started pocketing all but her normal badge once she’d reached Operation Control for a number of reasons. One, she was tired, after merely a day, of the envious looks and bitchy commentary; two, she had paid a lot of her hard earned money on the sweater she was wearing and it wasn’t displayed at its best behind half a pound of plastic and cotton webbing; three, they got in the way all the time.

She’d almost strangled herself yesterday when she’d accidentally begun to feed one of the IDs into a vending machine along with her buck.

Not her finest moment.

Flashing her access to get into the SFOF, Kate made a beeline for the ad-hoc lounge which was, in reality, a mis-matched collection of folding chairs, a table propped up by a stack of old textbooks, and, by far the most important aspect, a coffee machine that might have been even older than the building itself but made an awesome cuppa joe.

If it wasn’t for how they were all frisked every single damn time they left the floor – who the hell decided not to put any bathrooms on the floor? – who the hell decided not to put any bathrooms on the floor? – Kate would have stolen it last night.

Still might.

It’d be even easier right now seeing as how some asshat had finished the pot and not bothered to start off a new one. It wasn’t hard, for futz sake. Rinse carafe, fill with water, pour into reservoir, remove old filter, dump in trash, place new filter, scoop out inhuman amount of grounds, press button.

Apparently some of the greatest minds in the world were housed in the laziest of bodies.

“Kate?”

Fumbling her phone to put it on speaker, Kate set about getting a new pot started.

“Well, you get up at the ass crack of dawn to get into a rental car that pulls to the left and loses all radio connection when you go over potholes and won’t connect to your phone so you can play your own tunes, and the smell, Iz, you don’t wanna know about the smell!”

“You’re right, Bish, I don’t. Come on, what is it like being in the room?”

“It’s a small, windowless room keeping my tan ever-elusive, completely filled with computers.”

“Shocker. Don’t play like you aren’t pissing your pants every time you go near the place.”

“Shut up.”

“I knew it,” he crowed.

“Want to guess what the computers are called?” Kate asked to distract him from what was no doubt a
complex victory dance.

“Expensive?”

“You’re not as funny as you think.” While the machine gurgled and popped its way towards the perfect brew – or exploding - Kate poured enough sugar into her mug to allow the spoon to stand up on its own and grabbed the milk.

And promptly retched.

“Gross! Who left the milk out?” Screwing the cap back onto the bottle, she dropped it back onto the table. She could handle black coffee, she thought as she spooned another scoop of grounds into the filter, it almost spilling out of the tray.

Maybe with a little more sugar.

“Computers?” Isaiah prompted.

“Oh, yeah, right! You’d appreciate it, you’re a nerd.”

“You work for NASA.”

“We can’t all be…whatever it is you are.”

Isaiah sighed. “Retired. What I am is retired.”

“Sure you are. And the sky is green and I rode a unicorn to work today.”

It was a common argument, Kate never buying for a second that the enormous guy that’d moved into her building had actually left the army. Nothing Isaiah, or his wife Faith, could say would ever convince her that he wasn’t just some super secret spy. She hadn’t quite figured out why anyone would choose a man roughly eight feet tall, a walking mountain of muscle, and stunning to be a covert anything, but that didn’t deter her.

Isaiah was a secret something.

He was as retired as her ass and she worked hard to ensure her ass never quit.

“C’mon, Iz, guess.”

His huff caused static down the line.

“Cartoon characters, I dunno.”

“Just tell me.” In the background of his call, Kate could just about hear the dulcet tones of Isaiah’s newborn son giggling away at something, her friend cooing something soothing. It tugged at something in Kate’s chest. She was sure, completely and totally, that her father had never once stood over her crib and stared at her unblinking. That he’d never rolled around on the floor with her and made a fool of himself to make her laugh. That he’d never muted the baby monitor and sat up all night in the nursery to look after her when she cried just so her mother could have a whole night’s
sleep.

Little Justice had no idea how good he had it.

It was all far too introspective for Kate’s liking for 3am.

“They’re named after Star Trek characters.”

“Like Spock?” Isaiah sounded giddy with excitement.

“Like Janeway.”

“They went the ‘Voyager’ route? Awesome.”

“Janeway, Chakotay, Vidiian…”

“So what’s yours called?”

She’d been afraid of that. She really shouldn’t have built it up like she had.


“You’re such a nerd.”

“C’mon, tell me.”

“Uh, MPF8.”

“Uhhh,” Isaiah grunted, “I don’t remember that character. Was it Borg?”

“More like Acorn.”

“What?”

“I didn’t get a cool computer. I got a boring computer.”

“Not important enough?”

“Uncool. Nobody would have known he was alive without me.”

“So you remind me.”

“Shut up.”

“Hey, maybe one day they’ll name something cool after you.”

“Shut it.”

Isaiah’s chuckle was outdone by Justice’s high-pitched giggle.

“You’re calling me at 5am to tell me about computers?”

“You asked!”

“I asked about what it’s like there, not your hardware.”

“Oh, yeah. Sorry. Martian time-slip,” Kate mumbled around a mouthful of pastry.
“Huh?”

“Mars time. I’m exhausted and it’s making me weird.” Kate ignored Isaiah’s grunt of agreement. “I’m calling at 5am – and it’s 3am for me so it’s way worse – because we have to be on *Pathfinder*’s and Barnes’ schedule.”

“Welcome to parenthood.”

“Hey, I’ve been doing this longer than you’ve been changing diapers, wise guy. Besides, I get cool new ID badges, what do you get?”

Her answer came as a sharp screech which dissolved into a giggle.

“That’s what I get.”

Kate looked around the room. At the dingy chairs and stained carpet, and what looked suspiciously like mould developing in one corner.

There were times it felt like Isaiah definitely got the better end of that deal.

Except she knew that in five minutes when she walked in the door, when she saw the latest images from Ares 3 rendering in beautiful colour up on the screen…

Nothing beat that for Kate.

Isaiah had made a whole new little life, someone new and exciting.

She was helping return a man to his life.

To the world.

Seemed like something she could handle a little mould for. And the years she was pretty sure her fucked up sleeping schedule and diet were taking off her life.

“How long are you going to be there?”

“How long are you going to be in California?” Isaiah asked again. Condescendingly slowly.

‘*I have no idea. Wish I did.*’

“Until Fury doesn’t want me to be, I guess.” As much as she bitched about it, and she *really* did, Kate didn’t know how she left about potentially going back to her old life. Now communication had been re-established, nobody was going to need her to squint myopically at fuzzy images to figure out what their errant astronaut was up to.

They could just ask him.

She’d been replaced.

She had no idea what the hell she was going to do with herself when Fury eventually came to her. She was dreading the moment he sent her back to Houston and her boring office. She just hoped she’d shown enough smarts and determination to have gained his attention when it came to promotions.
Realising that a dead man was really alive and keeping watch over him for months had to be worth a leg-up on the career ladder, right?!

“I’m gonna stick around, make myself useful, see what shakes, y’know?

“You useful?”

“Shut up.” The machine suddenly ceased sounding as though it was attempting to rocket into space, a few lazy drips splashing into the life giving liquid, and Kate shot towards it. “I already hear that enough from some of the people here, I’m not taking it from you too.

“I earned this. I worked for this. I’ve worked so hard for this. Harder than any of them would believe. I might be a third of their age and female, but I’m good. I work hard. And,” she rapped the spoon against the side of her mug, “I’m a good person! It’s not fair that they’re all so-”

“Kate, chill.”

“I am chill,” she argued as she tossed the spoon, glaring up at the ceiling when it bounced on the table-top, hit the wall and skittered onto the floor and around one of the chairs under one of the dusty radiators.

Someone else could get it.

Maybe she wasn’t 100% a good person.

“Seriously, Kate, what’s it like?”

“Seriously, it’s not so bad out here on the edge of paradise. I have my little routines, I watch a bunch of screens, I drink a lot of coffee, I read a tonne of incomprehensible reports and I do whatever Rhodes and Fury want.”

“He’s the eyepatch guy, right?”

“Yup.”

“Scary dude.”

“You have no idea.”

**February 17th**

*T plus twenty-nine hours*

“Yo!” Rhodey hollered to the back of the room, pointing at Fitz and Simmons. “You two come ‘ere. You get to be the most Skye-ward today.” He caught sight of Kate and pointed to her. “And bring her with you.”

Fitz and Simmons arrived first. “Thanks, Sir,” the duo breathed as the flanked Skye at her station, the young woman smirking at them in the screen. Kate lagged behind before coming to stand beside Rhodey.

“You okay?” He whispered to her. He hadn’t been deaf to some of what had been said to Kate, or about the young engineer’s presence at the JPL. She might not have had anything to add to the
current situation, but she’d more than earned her place in Operation Control.
Rhodey saw how the muscle in her jaw ticked and how Kate lifted her chin.
“I’m fine. Just tired.”
“Fuck them.”
She turned her head so fast he was surprised she didn’t herniate something.
“Huh?”
“You deserve to be here, you know that, right? Fury himself wanted you here.”
“I know.”
“So fuck them.”
“It’s just envy, right? That’s what you’re going to tell me.”
“Yeah.”
“So, fuck ‘em?”
“Fuck ‘em.”
“I can do that.”
He didn’t doubt it.
“Hey guys,” she leaned around Rhodey to wave at the other young engineers.
“Hi, Kate.”
“Hey, I’m Skye.” Skye twirled around in her chair and reached out to shake Kate’s hand. “What do
you do?”
“She does her job. Just like how I want you to be doing yours.”
“Someone’s a cranky-pants today.” Kate smothered her chuckle into her hand.
“How long is this going to take?” Rhodey asked raising one eyebrow.
“Should be pretty instant,” Skye answered as she turned back to her controls. “Barnes entered the
hack this morning and we’ve confirmed it worked. We’ve updated Pathfinder’s OS without a
problem and we sent the rover patch. All the ducks are in a row, he’s just got to set it off.”
“Hope they’re not dominoes,” Fitz muttered, earning a slap on the hand from Simmons.
“So, once Barnes executes that and reboots the rover, we should get connection.”
“Yup,” Skye confirmed.
“Futz me, that’s complicated,” Kate commented.
“Try updating a Linux server some time,” Skye shot back with a grin.
It faded as Rhodey stared blankly back at her.

“Uh, that’s a joke, Sir. She was telling a jo – see it’s funny because-”

“You can explain it ten times and it won’t be funny to me. I’m a physics guy, not a computer guy.”

“To be honest, sir, she isn’t funny to the computer geeks,” Fitz said.

“Hey!”

“Well, you’re not!”

“When will we know when he’s executed it?”

“He already has,” Simmons answered.

“How do you know?”

“Um, system’s online,” said Simmons, pointing at what was, to Rhodey, so much incomprehensible code.

“What?”

“It’s online. It says so on the screen.”

“YES!” Fitz bellowed right in Rhodey’s ear, announcing it to the room at large.

“Oh, and we have a message.” Skye pointed up at the big screen, her quite voice somehow cutting through the happy cheers.

[11:06]BARNES: Hey honey, I ain’t dead. This is gonna sound weird, but who the fuck wrote ‘The Planets’?

“Can you believe it,” Rhodey heard Fitz hiss to someone as he elbowed Skye out to the way to get to the keyboard, “there’s someone on another planet typing to us right now.”

“That’s what you find exciting right now?” Skye retorted, sliding her keyboard over to Rhodey and shaking her head at his slow typing. The offer to type what he wanted died on her tongue when she looked up at his face; he needed to do this himself. They’d waited so long for this moment, they could all wait another minute for the man to say what he needed.

“Gustav Holst.” Skye turned away from Rhodes to look to Simmons. “Huh?”

“Holst wrote ‘The Planets’.”

“How do you know that?”

“He was English,” the young scientist answered as though it should have been obvious, and perhaps to her it was.

[11:18]JPL: Bucky, this is James Rhodes. We’ve been watching you since Sol 49. The whole world is watching you and rooting for you. You did an amazing job getting Pathfinder. We’re working on your rescue. Ares 4 MDV being modified for overland flight. They’ll pick you up and take you to Schiaparelli. We’re putting together a supply mission to keep you fed.
Apparently Holst was the composer.

BARNES: WOW, ALL BUSINESS, HUH? NO ‘HEY BUCKY, HOW YOU BEEN?’ NO ‘WHAT’S NEW?’ NOT EVEN A ‘WE MISSED YOU?’

BARNES: Huh. You sure? Never would have guessed that.

BARNES: Also, that’s fucking creepy, y’all watching me. Don’t you have jobs? Lives? Anything better to do than watching the Barnes Show? That is some Skynet level shit right there. Think the rovers are gonna stage a rebellion?

BARNES: That’s smart, that’s a good strategy. Really looking forward to all the not dying. Remind me to tell you about the other times I didn’t die. I want to make it clear upfront – what happened wasn’t the crew’s fault. What did they say when they found out I was alive? Can you say hi to my ma for me? And my sister?

BARNES: Huh. You sure? Never would have guessed that.

BARNES: That’s smart, that’s a good strategy. Really looking forward to all the not dying. Remind me to tell you about the other times I didn’t die. I want to make it clear upfront – what happened wasn’t the crew’s fault. What did they say when they found out I was alive? Can you say hi to my ma for me? And my sister?

JPL: Tell us about your crop. We estimate your food packs will last to Sol 400 on ¾ ration. How will your crop affect that? We haven’t yet told the crew about your status. We want them to concentrate on getting home.

BARNES: I used the potatoes from the Thanksgiving that wasn’t. They’re doing great but I don’t have enough farmland for sustainability. But it more than doubles my food to Sol 900.


JPL: We’re getting botanists in to ask you some more detailed questions re your potatoes and to double-check your work. I’m sure it’s fine, but this is your life at stake. We want to be sure. Sol 900 is great news. It gets us more time to prepare a presupply.

JPL: Please be advised that everything you type is being broadcast live across the world. Please censor your language appropriately.

BARNES: FUCK. YOU. SIDEWAYS. ASSHOLES.

BARNES: Tell me you’re going to tell the crew before they get home.

BARNES: Or I’ll swear all the livelong day and take my ma’s wrath. I will write every god-damn curse I can think of and I got nothing up here but time to get creative. Like hey, (.Y.) boobs.

JPL: We’ll discuss it at a later time.

BARNES: We’ll fucking discuss it now. Because that, and other shitty humour, is coming your way 24 fucking 7 until you convince me why the hell you’ve not told my crew yet.

JPL: Barnes, please. Don’t put them at risk. Once we have a firm idea as to a rescue plan, we’ll tell them. We’ll find a way to let you tell them.

BARNES: You’re hedging your bets. You waiting to see if you can rescue me or if I’m gonna die up here anyway and solve the problem for you. If I don’t make it home, you show them this. Show them that it wasn’t their fault. Promise me, Rhodes. Prove to me you’re the guy I think you are, the friend I think you are. Don’t be a fucking suit right now. Be my friend. Be the crew’s friend. Promise me you’ll make sure they know it wasn’t their fault.

BARNES: RHODES? RHODES, promise me. I need you to promise me right now, Rhodey. I need it.

JPL: I promise, Barnes.

BARNES: Thank you.

BARNES: Sorry about the swearing. Most of it anyway. And the boobs thing. But you
Antoine’s eyes narrowed while his smile never faltered. “No, ma’am. Like I said, we all know that’s Barnes,” he repeated firmly, “let’s not go ruining a fun little talk with any conspiracy theory nonsense.”
“I don’t know what you-”

“I’ll just bet you don’t. Let’s stay focused on the stamp, okay?”

Christine shot him a tight-lipped smile. “Let’s,” she forced out passed gritted teeth. Reaching below the desk, she held up another sheet, the now famous photograph of a man on Mars adorning the front.

“Here you can see the picture from the Imager aboard Pathfinder, and on the back are a series of facts about Barnes, Pathfinder, and the information that NASA has learned about what happened to-”

“Cause Pathfinder to fail?”

“Easy now,” Triplett laughed. “She didn’t fail. I work for the Postal Service and I know that! First Lander to successfully carry a wheeled rover to Mars. Three times the life expectancy and mission length is not failure. Nah, she did her job. Now she’s doing it again.”

“Mr Triplett, do I detect a hint of longing in your voice?”

“For?”

“Your grandfather’s position, perhaps?”

Her guest ducked his head and blushed. “I was a bit of a nerd when I was a kid. My mom guarded grandpa’s work like something outta myth, so yeah, I always wanted to follow in his footsteps but life had another plan in mind and I love my job. But bein’ in this building?” He flashed her a smile that was going to be getting him modelling offers from across the globe. “This might be a dream come true.” Antoine chuckled as he blushed again at the admission.

“With all your knowledge I’m sure you can answer a question that I’m sure a number of our viewers have.”

“I’ll do my best.”

“After Pathfinder stopped transmitting it was renamed the Carl Sagan Memorial Station, yet it’s been repeatedly referred to as Pathfinder, and on the stamp, it has Pathfinder.”

“You know, I can answer that.”

Christine was completely sure that she heard a crew member whisper ‘I bet it’s not all you can answer’ but she wouldn’t have gotten to her position if she couldn’t ignore the sounds around her.

“When Pathfinder was considered ‘dead’ she was renamed, but she’s awake now, she’s transmitting. She’s doing exactly what she was named for – she’s helping Barnes find a path home. Returning to her original name seemed fitting.” He chuckled again, eyes darting off-set for a moment.

“That, and, uh, it’s easier to fit on the stamp.”

February 17th
T plus forty-two hours
“No, thank you Mr. President,” said Fury, looking out the window as he spoke on the phone. “I’ll pass on your congratulations. We appreciate the call.”

When he hung up, he saw Tony’s reflection to step into his doorway.

“This a good time?”

“Do you really care, Stark?”

“No, not really.”

“Come in then.”

Tony settled himself into one of the two long couches that lined the far end of Fury’s office, throwing his sneakered feet up onto the arm, either not noticing the scuff marks the treads made, or just not caring.

“It was a good day today,” Fury noted.

“Yes, it was. This your subtle way of telling me not to ruin the day?”

“You need it to be not subtle?”

“I want to tell the crew.”

“And you’re bringing it up now because you think I’m in a really good mood because we got real contact back, the President is happy with us and you think with your other half in Pasadena—”

“Pepper is here!” Tony shot up onto his elbows to tip his head back and stare upside down at Fury.

“Oh, wait, you mean Rhodey. Yeah, I see your point.” Tony collapsed back into the couch.

“You’re trying this now because Rhodey can control you, or at least rein you in. With him at JPL with Bruce—”

“Can you believe he left me for Banner? Me, Fury, me! He didn’t even offer to go for a three-way! Sure, they take a little getting used to, and somebody is gonna get elbowed somewhere unpleasant, but get drunk enough and it’s all good. What does Banner have that I don’t?”

“Right now, I’m about to leave you for Banner and his ability to keep his mouth shut.”

“That’s not advantageous in a three-way situation.” He frowned as he thought about it for a moment. “Or even if there’s just two people, really. Although, maybe you’re good with your hands. Clearly your, uh—” Tony waved a hand lazily at Fury’s face, “depth perception is pretty fucked so maybe you’d better not get too close to an—”

“Stark.”

“It should have been my call from the beginning,” Tony swung his legs back down, scuffing the leather again – and this time Fury knew it was on purpose - and sat up, glaring at NASA’s Director, all business once again, the party pushed right to the back.

“I’m the Flight Director. They’re my people. You, both of you, stepped in and overrode me. Even then, we all agreed that when there was hope, we’d tell them. There’s hope now. We’ve got communication. Real communication. We’ve got a plan of rescue. And he’s growing a freaking farm, Fury. Fucking potatoes. Mars is Idaho North. We got hope. Let me tell them.”
“Okay.”

“Okay?”

“Tell them.”

“Just like that? Fucking weeks I’ve done everything but drop to my knees and freaking beg for you to let me tell them and now it’s just ‘tell them?’ What is wrong with you?”

“I knew you’d be up here the moment Rhodey hung up. I actually thought you’d be up here sooner. I decided three hours ago to let you tell them.”

“You’re a fucking bastard you know that?”

“I do.”

“You wanted me to come up here and beg, didn’t you?”

Fury raised his eyebrow.

Tony noted that he didn’t deny it.

“Oh, and Barnes and Noble? Really? Come on, admit it, Starbucks is better.”

“I know Pepper voted for Stucky. Stop trying to sway me.”

“Fucking. Bastard.” He made his way to the door. “But thanks.”

Fury stared at the door for a couple minutes after Tony left, before swivelling back to the window and staring out at the night sky. He pondered at the minute red dot that sat among the stars.

“Hang on in there Barnes,” he whispered, “we’re coming.”

Even if he wasn’t there to live to see it.

Rogers was going to kill him.
Time And Tide

Chapter Summary

Bucky Barnes knows what Sol 6 was like for him, but how did the rest of the crew experience it? And how will they cope with learning the secret NASA kept from them?

Barnes slept peacefully, hands flexing slightly were they were tucked up underneath his chin, a tiny smile on his face as he dreamed of something pleasant. The recent days had involved more physical labour than had been routine over the last few months and he was sleeping far more deeply than he had in some time.

Steve moved slowly, deliberately towards him, a smile tugging at his lips and Bucky felt his cheeks heat. Steve in full uniform was the stuff of fantasies, highlighting his broad shoulders and narrow hips, his powerful chest and long legs.

Getting him out of it was going to be even more fun.

The closer Steve got, the less Bucky wanted to look at him and the more he wanted to touch. He was ball-clenchingly hot and fuck did Bucky want him.

Steve’s smile widened, his eyes sparkling as he licked his lips as though he knew exactly what Bucky was thinking about and had a few ideas of his own, wonderful and filthy ideas that Bucky was going to support whole-heartedly.

He didn’t wait for Steve to finish crossing the space to him. Instead, Bucky stepped to Steve, slipping his hands around his trim waist to fill his palms with that perfect ass, wrenching their hips together with a groan.

“Up and at ‘em, astronauts!” Rogers bellowed. “It’s a brand new day on Mars and we got work to do.”

Barnes eyes snapped open, the dream dissipating in a heartbeat, though the throbbing in his balls did not. Between the gloom of the sleep area and the way he had his sheet pulled almost entirely over his face, he wasn’t sure he was truly awake.

Or where the hell he was.

Or why the hell he wasn’t in Steve’s arms finally, finally, getting what he wanted.

With a dramatic sigh, Bucky flopped onto his back.

The dreams were going to drive him crazy.

It was always the same. Just like their first meeting, Steve would be across a room, thick fingers wrapped around a glass or a bottle – or on one very interesting rotation, a lollipop but it was as if his brain knew he couldn’t handle that one twice – dressed in his uniform, sometimes the Army one he’d been wearing when they’d first met, but other times it was their AsCan camo gear from survival training, and all the noise and commotion of the room would fall away as Steve’s eyes locked with his.
Steve would stand up, so fast the stool he was sitting on would fall back with a clatter, the drink in his hand slipping down onto the floor and then he’d be striding toward Bucky, eyes alight with mischief and his lips twisting into a smirk but just as Bucky would get his hands on him, just as he’d get to finally, finally get to kiss Steve, finally get to know what he tasted like, he’d wake up, disorientated and unsure where he was, cranky as fuck.

The bed was fucking uncomfortable though so it definitely wasn’t his bed. He’d splashed out what’d felt like two months salary on a fancy mattress – it wasn’t like he was ever gonna need a fancy engagement ring – and even dragged the damn thing across the country when he’d become an AsCan.

AsCan.

Mars.

Oh, yeah.

Another day of digging holes.

Barnes’ groans were drowned out by Barton’s.

He didn’t wanna seem ungrateful, really he didn’t but when he’d been a kid dreaming of travelling into space, it had involved a hell of a lot more teleporters and replicators than it had digging holes and building Habs.

Still, not an ungrateful bastard.

Just a tired and aching one.

“Get up,” Steve ordered. “You got forty minutes more than you’d get on Earth. I’ve not heard this much bitching since boot camp.”

Barnes groaned again. Steve was far sexier in his dreams where he was trying to get Bucky into a bed and not out of it.

“If you Army grunts get it too easy.” Wilson and Steve had what Bucky and Clint deemed to be an unhealthy competition about who could wake up first and lord it over the rest of the crew. One day one of them just wasn’t going to bother going to bed at all so he could be up first. As an Air Force man, Wilson could easily match Rogers Army-trained schedule with ease.

“You fly boys would love to think that,” derided Rogers with a snort. “Never have to do any of the heavy lifting.”

Bucky let the familiar jibes wash over him, content to let his crewmate’s bickering distract them from how he had yet to even so much as make a move towards getting up, choosing instead to draw the sheet back over his head and curl into a ball.

It wasn’t that it was cold, the Hab kept the sleep area perfectly temperate and pushing back the sheets wasn’t going to be like it was back home in the dead of winter. But he was just so tired. It was only their second night out of the rovers and he was enjoying the space afforded to him.

Space being the polite way of being thrilled over a lack of proximity to Barton’s flatulence.

He was just settling down to slip back into a doze when his blanket was ripped off and a flashlight shone into his eyes.
Not for the first time.

“Sam!”

“You’re commanding officer says ‘up’, you get up, Barnes.”

Barnes half-heartedly punched out where Sam’s crotch should be, only to miss as he always did.

“Asshole!”

“Sir, yes, Sir!” Sam laughed as he dodged Bucky’s repeated attempts to snatch the blanket back before taunting him with it like a matador as he backed away, before turning and heading back to the main room, the blanket draped over his shoulders like a cape.

Hanging halfway off his bunk, Bucky yelled after him. “Gimme my blanket back!”

There was a beat of silence.

“No.”

“Jackass!”

With a groan, Barnes punched the pillow into a more comfortable position under his head and rolled onto his side, blinking out at the dark shapes in the room, still half-blind from what’d felt like a searchlight to his corneas. By the time he’d had a full-body stretch, and a yawn that caused his jaw to crack, the patterns of the room made sense.

Natasha wandered past in all her 6am glory. Which meant perfect hair, bright eyes and a disgustingly perky – smug - attitude. Barnes was pretty sure that that wasn’t right for a software geek. She was supposed to be the one that needed to be carried out of bed and threatened with the airlock.

But that was Barton.

Romanoff had never been seen anything less than perfectly put together and polished. Even while bleeding heavily from a wound in her shoulder after a training exercise had gone horribly wrong, she’d had perfect posture and not a hair had been out of place. Bucky knew that Natasha’s hair was naturally curly and yet even after washing it and having no access to straighteners, it was as if her hair knew better than to be anything other than stick straight.

Becca would have killed to know her secret.

Most mornings it was a race between who would wake up before Rogers bellowed, Romanoff or Odinson, neither requiring the walking alarm clock that was their commanding officer but more often than not, it was Natasha that hit the main area after the military twins.

For all he’d wake early, Thor would rise slowly, lumbering from the sleeping quarters to find something to eat while smoothing the wrinkles from his spacesuit. Thor had found the lack of showers the hardest thing to cope with during space travel, which was not what he’d expected.

He was also most often waylaid by searching for something with which to tie back his hair.

Man had 99 hair elastics but couldn’t find one of ‘em.

Which invariably left Barnes and Barton.

Barton never managed to get up before Barnes. Bucky had tested it once, just stayed in bed despite
repeated abuse from *the Up and At 'Em Twins*, and Sam even trying to haul him out of his bunk by his ankles, Bucky hanging onto the edge of the moulding as though his very life depended on it.

Nothing.

Barton had slumbered on, oblivious.

The only time he’d been on time to crew breakfast during training was when Rogers had ordered pizza at 5:30am and left the open box by Barton’s room door.

Worked a charm.

Sadly, Pizza Hut didn’t deliver to Mars.

Still in his own bunk, Barnes yelled over at Barton whose blond hair was just visible sticking out above his blanket.

“Barton!” Sacrificing his pillow – Barton was known to actually catch them in his sleep and hoard them away under his body and nobody wanted them back after he’d been grinding his hips into it while dreaming about fuck knows what – and gritting his teeth against the pain in his arms and shoulders Bucky threw it at Clint’s head.

No answer.

“BARTON!”

“Come on, Barnes. You know he takes his aid out.” Wilson yelled from the main compartment.

Grudgingly, Barnes sat up and swung his feet down. Slowly he made his way across the room and, still disorientated from the dream and not thinking clearly, grabbed at where he thought Barton’s shoulder was.

“Barton!”

He jumped backwards quickly, avoiding Barton’s flailed fist with the ease of much practice, though he stumbled as he backpedalled, slipped on the abandoned pillow and slammed onto his ass on the floor.

“Fuck!”

“You alive?” Nat called from the main compartment, though her question was little more than a knee-jerk reaction to hearing a loud noise rather than any actual caring to the answer.

“Yeah, yeah.”

Barton was still asleep.

Rolling up onto his knees, Bucky groped behind himself for the pillow, tossing it over his shoulder before lurching to his feet. He didn’t know what Barton’s childhood had been like to develop reflexes like that, but unless Barton was comfortable telling him, he wasn’t gonna pry.

Even when it led to him causing himself considerable pain.

Taking the much safer option this time around, Barnes plucked up the hearing aid that was tucked under the edge of Barton’s bunk and tugged an anti-septic wipe from the box next to it, giving the aid a quick wipe over before trying to get the doctor’s attention again.
“Clint!”

Barton rolled over, fell out of his bunk and remained on the floor.

“Come on, buddy. You gotta wake up. ‘Cos otherwise, Captain America out there is gonna-”

“Barton! Uncle Sam paid a hundred grand per second we’re up here. You ain’t earning that down there.”

“-do that.”

“Bad man. Bad man shush.” Barton’s face was smushed into the Hab floor and he still refused to open his eyes, but he tipped his right side up towards Steve’s voice.

The side with hearing that didn’t require an aid.

Rogers stepped back into the sleeping quarters, and Barnes would have had to be dead to not have appreciated the way his blond hair, utterly unlike Romanoff’s ordered locks, was sticking up a million different directions, his blue eyes bright with mischief and “Back home I’ve lifted 200 pound men out of their bunks. Want to see what I can do with you in 0.4g?”

Much to Barnes’ annoyance, Barton grumbled but held out one hand awkwardly for his aid.

“I’m up.” He stuffed the aid into his ear as he got to his knees, awkwardly untangling himself from his blanket with a frown as he took in the world around him, looking vaguely bemused to see the Hab in all its glory.

Bucky sympathised.

Just by being on the crew Doctor Clint Barton had made history. He was the first astronaut, in the world, to have been accepted into a space programme who was partially deaf. He was the first partially-hearing person to enter orbit. The first to be on Valkyrie. The first to enter deep space and the first to walk on the surface of Mars.

When they’d first gotten on board Valkyrie, he’d given the first interview from space that used only sign language, and the messages of support and gratitude and appreciation had flooded in. He’d been embarrassed by it all, not understanding why people cared so much about him, some backwater hick that’d gotten lucky with a great couple fostering, and later adopting, him and his brother. They’d been able to afford to send him to college when he’d shown great aptitude for science and with a scholarship for athletics with being the star archer, he’d made it all the way through to medical school without debt. Winning an Olympic Gold medal at 23 had earned him enough through appearance work to afford medical school and to try and pay back his adoptive parents for what he felt he’d ‘cost’ them.

They’d refused.

So he put it towards their mortgage instead, wanting to preserve the first real home he’d ever had.

After a shit start at life and a worse childhood, Clint’s life had seemed to be coming up roses as he worked his way through med school, being accepted into his first choice surgical programme, wanting to specialise in paediatrics.

A year into his residency in Bed-Stuy, a violent patient had gotten a hold of a scalpel from a tray and stabbed it into Clint’s left ear. Thankfully, the guy had made a sloppy job of the blow and only took much of Clint’s hearing and not his life.
When he’d lain on the scuffed linoleum of the ER floor, blood pooling around his head as people screamed and security took down his attacker, he’d never have guessed that fifteen years later he’d be standing on the surface of another planet.

As a child his father had told him he’d never amount to anything.

Now he was a respected doctor and an astronaut.

Now he was telling generations of children that being deaf didn’t stop him. That being deaf didn’t define him. That being deaf didn’t mean there was something wrong with him.

And people paid attention. Not because he looked hot on the side of a cereal box, not because people respected the white coat, but because he wasn’t just talking about going out and doing something, he was actually doing it.

He hadn’t really known how to deal with that.

Natasha, with a similar fanbase building over the role model she was to young women, was in the same boat, lost and confused by why anyone would look up to her. They turned to each other to deal with it together.

Barton’s primary coping system appeared to involve slumber and pizza. With no access to his comfort food of choice, Clint spent most of his free time asleep. Bucky wasn’t entirely sure that was healthy, but it was better than the alternative.

Hauling himself gracelessly to his feet, Clint slapped an arm around Bucky’s shoulders, ignoring the engineer’s hiss of pain, and leaned heavily against him.

“Jus’ guide me to the food, yea?”

“You give me drugs in return?”

“I could give Rogers some Tiger Balm, have him rub it into your aching muscles.” Clint waggled his eyebrows at him, clicking his tongue right into Bucky’s ear making him draw his shoulder up to his neck against the sensation.

“Asshole.”

“Tha’s me.” He yawned in Bucky’s ear, rubbing his nose into Barnes’ hair just to be an ass, chuckling at Bucky’s cry of horror.

“I’ll give you ibuprofen if you carry me to the table.”

“Y’know I can find that by myself.”

“Have you seen the Medbay?”

“You haven’t squared that away yet?” Rogers asked as they entered the main compartment.

“We moved in yesterday, gimme a break.”

“You’ve seen his place, Steve,” interrupted Sam. “Eighteen months we lived in Houston and bow boy was still living out of boxes.”

“It’s efficient,” Clint mumbled around a yawn.
“How’s that?”

“Learn what I need and what I don’t. I don’t open a box in six months, I don’t need it.”

“Didn’t throw any out though, did ya?”

“It’s still my stuff.”

“You’re a weird dude,” Bucky commented as he half-carried Barton to the table, the doctor sinking onto a stool next to Natasha and trying to steal some of her breakfast.

“Get your own,” she intoned, voice like steel. You did not fuck with Natasha’s food, not if you wanted to keep your hand.

“Get me some eggs while you’re up, Barton,” Wilson said. Knowing Sam’d wait forever if he relied on Barton for his meal, Bucky grabbed a pack when he got his own, firing it at his friend’s head before dropping another onto Clint’s lap. He had his head resting at an uncomfortable-looking angle on Natasha’s shoulder, the pair communicating through a complicated conflation of a language Bucky didn’t recognise and hand signs.

“Eat, Barton,” Rogers ordered, before continuing and sounding just like Bucky’s Ma. “You’ve got to keep your strength up.”

“Blech.”

“What’s ya want, Clint?”

Whatever Clint mumbled was lost into Natasha’s shoulder, the woman poking his forehead.

“English, Clint.”

“Pickles. I want pickles.”

“Pick again,” said Barnes.”

“You gotta eat something man,” Sam chimed in. He held up the mush on his plate, an appetising grey colour. “This isn’t bad. It’s not as good as the patties but it’s okay.”

“You can taste the difference in these things?” Bucky asked as he prepared his own breakfast, standing next to Thor at the counter. After four days on the surface living out of the rovers, having access to a microwave again was almost orgasmic. Even if Thor was hogging the damn thing all the time. Thor ate more food than anyone Bucky had ever met. More even than Rogers. And that was on a reduced diet. He had the sort of muscle mass that made people twitchy.

Especially NASA engineers that were conscious of every gram on board their vessels.

“Next to MREs, this is haute cuisine.”

“What is MRE?” Thor asked with interest.

“Meals Ready to Eat. Bagged rations for being in the field”

“They are not appetising?”

“They taste like shit.”
“That Beverage Base Powder Orange, though.” Sam sighed and made a kissing sound. “Delicious.”

Rogers gagged.

“You’re kidding?” Sam’s face split into a wide smile.

“Fucking right I’m kidding. That shit was disgusting. That chicken pesto salad thing wasn’t a lot better.”

It was like listening to a language that you didn’t understand, and Thor didn’t look like he was any more understanding on what the conversation was about than when it started and after a few minutes of trying to decipher what the other two men were on about, he gave up and made his way over to the food cupboards, head and shoulders disappearing inside as he shuffled the boxes around, grunting in annoyance until he found what he was after, banging his head against the top shelf as he exited with a look of pained triumph.

For reasons that nobody could comprehend – the nutritionists at NASA included – Thor seemed to delight in the dehydrated meals. The only explanation put forth was that by Clint; his theory, and it was shaky, was that Thor had had such a loving family, one filled with Christmas trees and traditions and home cooked meals. Those home cooked meals were the important part of his theory but he tended to get side-tracked down on of the other paths long before he finished his explanation. Which was that Thor, having had nothing but the best his entire life, was enjoying slumming it.

It seemed as viable a hypothesis as any.

That morning, Thor was preparing some sort of meatballs and egg concoction that Bucky really hoped tasted better than it looked. Or smelled.

“You really like that?” He asked.

“It is most filling and nutritious. You are welcome to try it.”

“No thanks, buddy.”

“You are sure? It would be the work of a minute to make a plate for you also.”

“Yeah, I’m sure,” Bucky answered, unable to tear his eyes away from the horror movie on a plate that Thor was pushing at him with every sign of enjoyment. “But thanks, really.”

“Should you change your mind…”

“You’ll be my first point of call.”

“Hey, Thor,” Barton’s sleepily interrupted.

“Yes, Doctor Barton?”

“Yes, Doctor Barton?”

“Can I try it?”

Thor’s handsome face lit up; in six months none of his crewmates had taken him up on his offer before. “Of course, Doctor.”

“You know he just wants you to give him that plate, right? He wants you to make him his breakfast.”
“I do not mind. He is weary and is still not used to such hours. I am refreshed and have no care of preparing a second dish.”

“Alright then. You want me to-” Barnes gestured to the plate in front of Thor, who pushed it towards him.

Making his way to the table, Barnes slid the plate in front of Barton, retrieving the unopened food-pack from Barton’s lap and tossing it to Thor who put it back where it came from before searching for another duo of bags that meet his specifications. Barton, refusing to open his eyes just yet, groped blindly around the surface in front of him, until he found the plate, eschewing a fork and picking up a meatball with his hand.

“Were you born in a barn?” Wilson asked, swallowing his forkful.

“Hmphhh,” Barton grunted as he chewed. “Yeesh.” Barton fanned a hand at his mouth as he sucked in air around the steaming hot bite.

“I could believe that.”

Clint swallowed with a wince, reaching for Natasha’s water and draining the glass dry. “It’s true. I came early and fast, mom was working in the barn and couldn’t be moved. I was born in stall three next to a really startled goat.”

Sam, Steve, and Bucky looked to each other in silence for several seconds, before bursting into laughter, Sam beginning to choke on his last mouthful of reconstituted eggs, Thor reaching out and slapping him on the back hard enough to bruise, Sam waving away his help desperately, trying to chew, swallow, laugh, and breathe at the same time.

It wasn’t working well for him, eventually having to scurry over to their minute toilet stall to spit out what he couldn’t swallow, to the jeers and catcalls of his crew.

“Fuck off!”

By the time Thor joined them a few minutes later, they’d all settled down again, turning their energy to eating their breakfasts, Barton managing skilfully to consume his entire meal without spilling anything or opening his eyes.

It was amazing really. He’d always gloated that he could hit any target whether he was looking at it or not – and after a drunken dare had actually proved it well enough. Anyone who could hit ten out of ten targets dead in the centre while halfway to alcohol poisoning and blindfolded was a man to fear – but it was still a wonder to watch.

Disgusting sometimes, but a wonder.

The short time between waking and heading out onto the surface was the only truly quiet time they had, their evenings filled with tests and preparing the day’s data and interpretation for the evening downlink. By the time that was finished, they all tended to collapse into their bunks and fall asleep listening to music or whatever movie they’d been trying to watch.

Which was an improvement on their time living out of the MDV and then the rovers. The only good thing that came from those horrific early sols was that they were so exhausted by the work of setting up the Hab and arrays that they’d barely had the energy to strip off their suits and fall onto whatever vaguely horizontal space came available, let alone start complaining or arguing, beyond a half-hearted attempt at comparing who had it worse, with the other five ganging up on Sam who spent his sols alternating between checking the systems on the MAV and setting up the weather stations.
Now they were settling into the Hab properly, by unspoken agreement their breakfast times were quiet affairs after the rush-rush-rush of wake up.

With pride in his eyes, Rogers watched his crew with a gentle expression, smiling shyly at Barnes when their eyes caught, determined not to look away quickly as though he’d been caught with his hands in the cookie jar, instead staring in silence at Bucky before forcing himself to look back down at his tablet slowly, sure his pinks had pinked.

Barnes was pretty sure that Rogers knew how he felt and nearly certain that Rogers felt the same way back. While Barnes would happily forget the mission for a couple hours if Rogers was to make his move, he knew too damn well the Commander wouldn’t do anything of the kind.

Bucky knew all about how sick Steve had been as a child, how he’d spent more of his young life staring out a hospital window than a classroom window. Steve had spent his early years fighting just to keep breathing, pushing away the pain, enduring procedure after procedure after procedure with barely more than a sigh. By the time he’d finally left the hospital, his iron determination had been forged, and after an adolescence spent tirelessly building his body up, he’d finally earned his dream and been accepted into the Army.

Nothing was going to interfere with Steve’s dream.

But Bucky could cope with that.

He really could.

It was part of what Bucky loved about the giant idiot; once he’d made up his mind to do something, once he’d decided to achieve something, he didn’t stop until he managed it. It was part of why Bucky knew it’d be okay – as soon as they were done, he was sure that Steve would pursue him with the same single-minded focus as he did everything else in his life.

He couldn’t fucking wait to have all that focus on him.

The dream come to life, where nobody existed but the two of them.

25 more sols on the planet, and 125 days for the journey back.

That was all.

He could wait 150 days to make his move. Even if his hands itched to smooth over Steve’s broad shoulders, to feel his weight pressing him into a mattress, a wall, the floor…

Licking his lips just as Steve glanced back up, Bucky smirked when Steve’s cheeks flushed a delicate pink and he looked away to the printouts beside his plate.

He upgraded his thoughts on Steve’s feelings towards him to definitely certain.

The day they got home was going to be awesome. He had 150 days to list exactly what he wanted to do with and to Steve. He wasn’t sure how he was going to order it; was he going to do it in alphabetical order? Length of time he’d been fantasising about it? The amount of time he’d need to stretch before hand?

These and other questions were going to burn a hole through his head for the next five months.

It was going to be awesome.
Frustrating as fuck.

But awesome.

Bucky could just do without the dream until he was back on Valkyrie with a door that shut – and fucking locked – so he could take matters into his own hand. Down here he was too fucking exhausted and wasn’t such an asshole that he’d jerk off with five of his closest friends within five feet of him.

This was not some weird-ass boarding school.

With one last glance at Steve, rewarded only by the sight of his cowlick still untamed, Bucky focused on his breakfast, willing away the blood he could feel rushing to his cock.

Sam would notice if he got hard, and the asshole would never let him forget it.

Clearing his throat, Rogers tapped the table-top to get the crew’s attention.

“Mission update came through.” He raised the tablet he’d been reading. “Satellites are showing a storm on the way, but Control says there’s ample time for surface ops before it arrives, so Thor is with me outside. Romanoff, you’re monitoring the weather stations and tracking the storm’s progress. Barnes, your soil experiments are bumped up to today as you might not get outside tomorrow. Barton you’re to be running the samples you collected yesterday. Wilson you get to check out your lady love. Everyone clear on their duties?”

“It really wise to be going out if a storm is coming?” Wilson asked. He knew he was going to get the brunt of the crew’s tired wrath when he returned from the MAV. Most of the crew considered the upkeep of the MAV to be far, far easier than the manual labour that they endured sol in and sol out.

Secretly Wilson agreed.

It was necessary, of course it was absolutely necessary to ensure that the systems on the MAV were operational at all times. It was the lifeboat, their escape pod, their way back home. But while sometimes the work involved complex fuel calculations, for the most part, Wilson sat on his ass on the launch couch, running hypothetical scenarios and flipping switches.

Digging post holes for the Hab it was not.

The crew never let him forget it. While they humped bag after bag of regolith around and assembled solar arrays and essentially moved house, he got to luxuriate in the MAV.

He was feeling like the most hated man on the crew.

But the MAV was also the least stable structure on the site and he didn’t relish the thought of being inside it when a storm hit. At best he’d be stuck there until the thing blew over and it having been upgraded to severe suggested they were in for the long haul, and at worst he could be killed if the damn thing tilted too far and crashed to the ground.

Staying inside seemed far more sensible.

“Houston has okay-ed it.” The ‘and we have orders’ was more than audible in his tone, and the whole crew knew him well enough to be sure that they were all going out whether they were particularly enamoured with the idea or not.
Thor, however, gave it a try. “I am in agreement with Sam,” said Thor. “It seems to be an unnecessary risk. I too have seen the images upon Miss Romanoff’s computers, and I believe the storm to be of greater strength than our commanders realise.”

“Coming to Mars was an unnecessary risk,” Rogers countered easily. “Risk is the price of advancement and we all knew that when we became AsCans. That hasn’t changed just because we’re now safe inside the Hab. We have several hours before the storm hits but the time is ticking away and I for one am not going to be sitting in here on my ass wasting time and money. If risk is the price, then I’m willing to pay it. Anyone who remembers that can join me outside.” Without looking at any of the crew, Steve collected together his tray and cup, tugging free a sheet of the antiseptic wipe to clean the tray down, immersing the cup in a small amount of water in the little sink beside the microwave, little more than a tub sunk into the counter top that didn’t have running water, instead whomever was up first taking a few litres of water from the Water Reclaimer. After stowing the package of his meal into the small trash bag they’d hung off one wall with duct tape, Steve made his way to the airlock, carefully pulling on his suit in silence.

The crew watched as he span the wheel on the inner airlock door and stepped inside without looking back. As soon as it slid shut behind him, with a hiss as it locked in place, the crew all turned to Sam.

“What?”

“You gotta tell us what to do.”

“No,” Sam denied, “I really don’t. You got your orders.”

“Sure, but y’know, I wanna know your orders.” Clint propped his hand up on his chin.

“Why?” Sam speared the last of his breakfast and pushed his tray away with a frown.

“You know.”

“I really don’t.”

Clint looked to Natasha with wide eyes and looked betrayed when she shook her head, chuckling into her fist. “I’m not getting involved.”

“Clint.”

“Spit it out, Clint,” Bucky demanded, curious as fuck and hating being out of the loop of whatever the hell Clint and Nat had been up to.

“Uh, I-I don’t-”

“Clint Barton.”

Clint jumped in his seat.

“Fucking ow! What the fuck, Wilson?”

“Tell me!”

Clint leaned down to rub at his injured shin, shooting Sam a look that promised retribution that would likely involve superglue and the body part of his choice, before deciding instead that whatever he was about to say would be far more painful, judging by the smirk that twisted the corner of his lips and the way his eyes lit up.
“Well, you’re kinda like the mission mom.”

This time it was Bucky being treated to Thor pounding on his back as his last mouthful of water seemed to drown his lungs, his eyes watering as tried to suck in air between burning coughs, gagging at how what little water he could bring up was warm when it hit his mouth.

But his pain was nothing on Sam’s, someone seemingly having pressed pause on the pilot, the man crouched halfway to standing, motionless. Nat had a fleeting thought of appreciation for the man’s quads, which must have been burning after the minute of him staring at Clint in horror.

“I’m what?” He finally managed to grit out.

Clint bared his teeth in what might have been generously referred to as a triumphant smile but appeared far more akin to a challenge.

“Rogers is the dad,” he said as though it were obvious. “You’re second in command so you’re momma dearest.”

Sam’s eyes darted from Clint to Natasha who just shrugged, seemingly utterly unconcerned by the look Sam was giving her, before turning away to her tablet.

“I’m…”Sam took a deep breath and tried again. “I’m the mom.”

Clint quirked an eyebrow.

“Gonna deny it?”

“Fuckin’ right, I deny it. I’m not your mom, Birdboy.”

“Kinda sound like it right now, Falcon.”

“Fuck you.”

“Oooh, really sound like it now.” Clint had to duck fast to get his forehead out of the way of the cup Sam had snatched up from Thor’s tray and fired at the doctor’s head.

“You’re an asshole.”

“No question, but at least I’m an asshole with aim.”

“And you’re the layabout stoner black sheep son.”

“Nah,” Clint denied with a laugh and shake of his head. “I’m dirty Uncle Sal.”

“I do not know what that means,” Thor intoned as he stood up, looking between the other three people at the table as Sam made his way to the counter.

“Probably don’t want to,” Wilson retorted as he ripped a wipe from the pack on the wall, repeating Steve’s actions to wipe down his own tray, tipping his cup into the sink before turning to fire the balled up wipe at Clint, the light projectile unravelling within a couple feet of leaving his fist, and falling to the floor well before it got close to the table.

“Uncle Sal can do the washing up.” He stated over Clint’s cackling laughter and decided to ignore Nat’s barely contained snort of amusement. Thor still looked confused as he followed Clint to the sink, the doctor taking the chemist’s tray and shoo-ing him away to get ready to hit the surface.
“Be careful,” ordered Natasha to Thor and Sam as they made their way over to the airlock to don their own suits. “I tell you to abort and come back in, you do it. I don’t give a shit what Captain America says.”

“Yes ma’am,” Bucky saluted as he passed her, arms already aching at the thought of more manual labour.

The three figures stood around the solar panel array, their bulky suits rendering them almost impossible to tell apart, only the Norwegian flag on Thor’s left shoulder distinguishing him from Rogers and Barnes, who bore the Stars and Stripes.

“So? You ready to sign off on the array or not, Rogers?” Bucky asked as he tried to roll his shoulders back as well as possible in the confines of his suit.

Which meant, in fact, not at all.

His shoulders ached.

He was pretty sure it was going to be a Pavlovian response every single time he caught sight of the array and if Steve didn’t finally let him move on to something else, something that didn’t involve holding his arms above his head for twelve hours a day, he was going to become the first person to commit mass-murder on Mars.

He’d already caught himself eyeing up the trowel on more than one occasion.

Bucky was beginning to worry about himself, truth be told.

Anything had to be better than the array.

“I dunno, Buck.”

“You’re fucking kidding, right?!” Bucky reached out and grabbed the closest portion of lattice, and made a show of tugging on it as hard as he could.

“Look at this shit. This is solid. It’s a work of fucking art.”

Behind his faceplate, Steve looked unimpressed. “I’m not questioning your work—”

“Sounds like it,” Bucky grumbled petulantly, moments away from crossing his arms over his chest.

“I am sure the Commander wishes only to ensure we have done the very best of jobs.”

“Yeah,” Steve agreed with a smirk, the little shit. “That.”

“Just sign off already, Commander.” Steve, in a very un-commander fashion, flipped the botanist off and went back to checking over the lattice, examining every fixation for every individual solar panel.

“You not get an A, Barnes?” Sam’s voice crackled over the comms.

“Shut it,” Bucky muttered.

“Must be tough to have worked for so long on that array and not get a sticker.”
“Oh, go flip a switch,” Bucky reached behind him and flipped off the general direction of the MAV.

After what felt like forever, but was more likely to be five minutes, Steve finally got to his feet and turned back to the other two men.

“Okay, I’m ready to sign off.”

“*Fuck yes!*” Bucky punched the air with a wince.

“But-”

That pulled Bucky up short, and his arms fell back to his sides.


“But,” Steve continued, “why don’t you ask your mother if she approves?”

For five silent seconds, Bucky stared at Steve in slack-jawed astonishment.

Then he doubled over barely able to breathe.

“How the-what the – You were outside!” Sam’s outrage was evident as he yelled down the comms.

“You think I didn’t open the line?” asked Nat, her amusement barely contained.

“You were at the table!”

“You’re in *space*, Wilson. How are you this impressed by someone using a portable tablet?”

“I am *not* impressed. This is not what I sound like when I’m impressed!”

“Kids, kids, don’t make mommy mad.”

“Oh, is that how it’s gonna be, Rogers?”

“That’s how it’s gonna be.”

“Sucks to be you, then.”

Bucky watched as Rogers straightened up and turned towards where the MAV bisected the horizon.

“And why’s that?”

“Well, Cap, I *was* thinking about how when I finished-”

“Sit**i**ng on your ass?” Bucky asked

“Running important checks, jackass.”

“While on your ass.”

“Getting to my point, Barnes, I *was* thinking about how I could come help you guys out, but now I’m just going to take my strong arms inside and hang out with Natasha and Barton. Wouldn’t want to embarrass you guys with how fast I can do the shit you’re all bitching about.”

Barnes blew a raspberry into the comms, leaving a very fine mist on the bottom half of his faceplate, much to his annoyance.
And disgust.
“You’re all talk in your little rocket ship.”
“If you’ve got problem with your little rocket ship, Barnes, I’m sure Barton can suggest something.”
“Fuck you.”
“Never gonna happen.”
“Romanoff?”
“Yeah, Cap?”
“Can you kill the comms between Moe and Larry?”
“And miss their witty repartee?”
“This is considered wit in your country?” Thor asked.
“It’s as close as either of those two will ever get,” Nat answered, Clint’s sniggers more than audible in the background over the beeps of her computer.
“Shut up, Barton!” Sam and Bucky yelled together.
“That’s Doctor Barton, to you scut monkeys.”
“I am never calling you that,” Sam vowed.
“We’ll see.”
“Never.”
“You need a prostate exam and we’ll see what-”
“You ain’t ever getting close to my prostate!”
“Don’t be squeamish.”
“I’m not squeamish,” Sam denied with fervor. “But your fingers and my a-”
“Aaand that’s enough,” Steve interrupted, much to the obvious relief of Thor.
“Ooooh, you made daddy mad,” Bucky muttered.

Steve whirled away from where he’d been staring at the MAV and pointed a clumsy, gloved hand at Bucky.
“Don’t call me that.”
“Got a daddy kink, Rogers?” Nat asked with what someone who didn’t know her might call innocence.
“We won’t kink shame, Cap,” Clint chimed in.

“Romanoff, are you sure you can’t selectively mute these assholes?” Steve groused as he turned his back on the solar array and made his way over to where the trio had dumped a stash of trowels, vials,
and assorted collection tubs. “And maybe take away Clint’s mic?”

“No way I’m willing to mute you boys with that storm coming, but I can take Clint’s headset.”

“Hey!”

“Disregard any cries of pain you hear in the next thirty seconds.” There was a sharp crack over the comms, as though Natasha had pulled her mic off and thrown it onto her desk.

“Pain? What?! No – Nat – get away from…”

Bucky looked up at the Hab when Clint’s howl of pain was cut off after a second and caught Steve’s eye with a smile, the Commander’s answering grin full of mischief.

“Did you just allow Natasha to kill our doctor?” Sam asked.

“I’m the disciplinarian parent.” Bucky’s cheeks flamed at the images that popped up in his mind at Steve’s words. He couldn’t help how his tongue snaked out to lick suddenly dry lips and didn’t miss how Steve’s eyes tracked the movement.

That was bad.

It was oh so good, but it was bad.

Spanking wasn’t his thing. He hadn’t thought it was his thing, anyway, but if his response to the images were anything to go by, he might have to rethink a few things.

Like any sort of restrictive clothing, because fucking ow. Space suits were not designed to get an erection in.

Dropping ruthlessly into a crouch killed that pretty quick.

Killed any chance of ever fathering children too, but Barnes figured it was worth it.

Picking up a trowel and running it aimlessly across the dust, watching the motes cloud up into the air and swirl around as he waved a hand lazily at them, Bucky turned to the other men.

“So what horror have you got in store for me now?”

“This EVA is about the chemical analysis of the dirt so Barnes and I will dig, and Thor will tell us what to do.”

“Woah, woah, woah.” Bucky dropped the trowel and pointed at Thor. “Whadya mean ‘Thor will tell us what to do’?”

“It’s his experiment.”

“I got that, I got that. I mean, what the fuck about us digging and him being the slave driver? He isn’t digging?”

“I,” Thor intoned, “will be cataloguing and organising the samples.”

“It’s his experiment and all he’s doing is boxing the samples?”

“Wish I was gonna help you out now, don’t you?” Sam asked gleefully down the comms.
“Fuck you.”

Bucky’s only answer was a laugh.

“You are sure Ms Romanoff that you cannot mute certain comms?” Thor asked with genuine interest. When only silence met his inquiry, Thor tried again.

“Ms Romanoff?”

“I think she’s still killing Barton,” Sam suggested.

“That’d only take Nat five seconds.”

“You think she’s okay?”

“Of course I am,” Nat answered indignantly.

“Where were you?”

“Performing cognitive recalibration on our doctor.”

Steve twisted to look to the Hab.

“Do I want to know what that means?”

There was the sound of Nat hissing through her teeth. “No.” It sounded more like a question than an answer.

“Will he be alive when we get in?”

“Alive? Definitely. Conscious? Depends on how long you boys take to make your sand castles.”

“We are not building, Ms Romanoff, we are digging.”

“My mistake.”

Thor crouched down and retrieved the trowel that Bucky had dropped, and reaching out for the other. He held both implements out to Steve and Bucky, a sly smile on his lips.

“I require samples from 30cm down, absolutely no less. 100 grams of soil per sample.”

“Of course you do,” said Steve, taking up the offered tool. It was hard to tell because of the bulky suit, but Bucky was pretty sure, Steve’s shoulders were slumped.

Served the asshole right.

Thor rummaged around in the pile of shit he’d dragged out with them earlier, triumphantly holding aloft a bouquet of lime green flags and a piece of laminated card.

“I shall mark out the locations where I wish for you to dig. You will then place the samples in the provided bags.” He pointed to where a small set of digital scales sat on the dirt. “You weigh the bag and then pass it to me along with the marker flag.”

“Sir, yes, Sir.” Bucky ripped off a pathetic attempt at a salute as he watched Thor mark out his treasure map of soil samples.

“Somewhere there’s a country in need of a King,” he grumbled as he made his way to the first flag,
beckoned by an imperious wave of Thor’s hand and setting to his task with precisely no enthusiasm. He was really looking forward to payback on Sol 9 when it was sweet, sweet botany time. No more fucking chemistry.

Same fucking dirt though.

But still, this time he’d be the one with all the power, wielding a trowel with every bit of deadly precision as with a sword.

Fear the botany.

“Nat, I want updates every five minutes as to the state of the storm. Any changes, I don’t care how minor, I wanna know about them,” Steve ordered as he was pointed to his first marker, Thor already moving off to flag up the rest of the sites, a little forest of green flags sprouting across the reddish dirt.

“Will do,” Natasha promised. “Even if there are no changes, I want each of you to stay within 100m of the Hab. I don’t like the look of the thing.”

That caused even Thor’s head to snap up and look towards the Hab. It was an extremely rare event for Natasha to admit to feeling anxiety about anything.

“You seein’ something?”

“It’s a feeling, Steve.”

Thor glanced at Steve and then over to Bucky. Like Steve and Sam he’d spent time in the Armed Forces, conscripted for mandatory military service, and while his two year of serving was nothing compared to the careers that the other two men had built up, he knew all to well the value of a feeling.

“What is your feeling, Ms Romanoff?”

“Just a feeling, big guy.”

“You want all your little chicks in a row, huh, Romanoff?” Sam asked.

“Don’t try and make me the mommy here, Wilson. I just want you all ready to move if the storm is travelling more quickly than we think, I want you inside as quickly as possible.”

“Don’t gotta tell me that,” Wilson muttered.

“You’re a fucking daredevil, fly-boy, I do gotta tell you that. That storm comes in, I want your ass in the rover and back here, asap.”

“I can cross the distance-”

“In the rover, Wilson.”

There was a beat of silence and then a second. The strain in Natasha’s tone was even more rare than her earlier admission.

Natasha didn’t do scared.

Not really.

Not that she ever showed, but her voice had quavered, a genuine note of distress weighing her
None of the men on the surface were going to argue.

“Alright, ma’am. Storm comes in, my ass is in the Mystery Machine.”

“Now get on with it, I got shit to do.”

There was a chorus of ‘yes, ma’am’s from the men on the surface, as well as what Bucky would have sworn was a groan from an otherly-conscious Clint. He’d been on the receiving end of one of Nat’s right hooks – he didn’t envy the good doctor.

But he’d never learn if he didn’t get knocked down periodically.

They spread out, each taking to their task with gusto, only occasionally turning to watch the storm before collecting their samples.

Within ten minutes, Bucky was bored out of his mind, his shoulders and biceps informing him, in no uncertain terms, that they didn’t like digging any more than they’d enjoyed constructing the solar array.

Digging fucking sucked.

Shame he had sol after sol after sol of it.

“Why didn’t I choose an easy discipline?” He wondered aloud. “I coulda been a pilot but nah, I had to be a botanist.”

“You couldn’t fly a fucking kite,” Sam argued.

“If you can do it, I can do it. Besides, I’ve got my pilots licence.”

“For the trainers NASA had you fly!” Sam scoffed.

“You’re envious that I can fly a helicopter and you can’t.”

“Right,” Sam laughed. “That’s what I am.”

“Hey, Thor,” Steve cut in before it could descend any further into chaos. “How many of these you need?”

“I require a minimum of seven.”

“That’s not so bad-”

“From each of you.”

“Of course you do,” Bucky grumbled. “Why isn’t Clint out here for this shit?”

“Do I look like a chemist?”

“Do I?”

“Ms Romanoff, Doctor Barton seems to be capable of speech once more and it appears to antagonize my slaves.”

“I’m working on it, Big Guy.”
“I’ve collected two so far, Buck. But if the Peace Corps can’t keep up…” Rogers goaded.

“You Army boys are such punks.”

“Strong, fast punks.”

“That’s how this is gonna be?”

“That’s how it is.”

“Heads up, fellas.”

His shoulders on fire, Bucky gratefully dropped his trowel as he looked up towards the Hab. Every time he’d gotten close to finishing, Thor had pointed to a new flag that had sprung up from nowhere, the chemist looking like some sort of hyper-organised dragon with a hoard of beautifully tagged samples that he was lovingly piling into the large tub he’d brought onto the surface.

The smugness might also have stemmed from never once picking up a trowel. Asshole.

“The storm is approaching, Ms Romanoff?”

“Look over your shoulder, Big Guy, and you’ll see it.”

They all turned to look eastward at the oncoming darkness, the talcum powder-like top soil of the planet whipping up into the air and blocking the sun. When they’d stepped out onto the surface they’d been able to see for miles across Acidalia Planitia, but now Barnes could barely make out the eastward weather station.

“It is coming too fast,” said Thor. “It is far closer than NASA reported.”

“Closer and larger,” Natasha agreed.

“There’s still time to finish,” Rogers proclaimed, turning to the man at his right. Even eyeing the storm, Bucky couldn’t back down from a challenge like that.

“It’s on.”

“It’s off,” Romanoff’s voice crackled over their suit’s radios. “The storm has been upgraded to severe. It’s going to be here in less than fifteen minutes. Get your asses inside.”

“Any reason Houston is-”

“I can only interpret what I see and this is a big storm. Stop arguing and get inside.”

“You heard the woman, back to base.”

“That means you too, Sam.”

“Aye, aye.”
The roaring winds shook the Hab as the crew huddled around Natasha and her computers, all already in their EVA suits in case of breech. The readouts on her laptop were easy to interpret – the storm was raging and had been for some time, building up to its crescendo for miles across Acidalia Planitia, working its way up to its aria across the Hab. It had come in faster than even Natasha had predicted, slamming into the Hab within moments of the four men hitting the airlock.

Barnes had been shocked at how fast the cloud had blown in, and he’d grown up in New York. It had been extraordinarily disorientating; he was used to storms that announced themselves, that howled and whistled and screamed their approach.

It was silent.

If it hadn’t been for how dark the sky had become as they’d hastily packed up Thor’s kit, Sam giving updates every fifteen seconds as to the progress on his egress from the MAV, Barnes wouldn’t have been aware there was a storm literally at his back. In the time it’d taken them to finish sealing all the open bags, and throw the scales, flags, tools and every other piece of shit that they’d taken out onto the surface with them into the tub, every man had had to turn on the high-power lights on their right shoulder and wrist, the lights in their helmets coming on automatically in response to the sudden dark.

Minutes was all it had taken.

Minutes from full sunshine to pitch black.

It ranked as one of the most terrifying experiences of Barnes’ life.

When he’d been focused on getting inside, he’d had no energy left over to worry about just how bad what was coming for him, coming for them, was. But when he’d stood and looked over his shoulder, peering out into the gloom, unable to see anything…

It was the first time he’d been truly scared since the second the main engines on the ascent vehicle had lit seven months previous.

It was nothing like a storm back home. For a start, it’d developed from the ground up, rather than the other way around, the light top-soil blooming into the air and blocking out the sun. There were no trees or buildings or hills to block or channel the wind, it just raced across the pancake flat landscape to slam against their backs, Bucky rocked off his feet more than once as he crouched down to finish his work.

Bucky had been so caught up in the romance of the whole ‘being in space’ thing he’d been drunk off for the past week, that he’d forgotten about the remarkably high chance of death.

Especially by storm.

Ares 1 and 2 had been lucky, supernaturally so. During their 30 and 32 sol missions, their sites had remained blessedly clear of anything more than a stiff breeze, even the powder-fine topsoil barely picked up, let alone kicked into the air. So well had those missions gone – much to the chagrin of Doctor Strange and his experiments - that Bucky, and likely the other members of Ares 3, had forgotten that meteorology was an issue.

As the storm had approached behind him, Bucky had, between thoughts that he now knew how the sickest antelope in the herd felt when everything got all too quiet out on the Serengeti, wished with all his might to be back at home. One where he was protected by steel and brick and an
atmosphere. Here, he was going to be huddling against winds well in excess of 'hurricane force' in what was a fabric version of a tin can.

He’d started to walk a little faster towards the Hab when that charming little thought had crossed his mind, homing in on the strobing light that illuminated his home away from home. A tin can was better than nothing, and it sure as fuck beat sitting out on the surface like a moron. Steve, holding up the other end of the massive tub that they were carting Thor’s shit around in, had to call for him to slow down; the ground around them had a number of foot deep holes, and even with the sand being whipped into the air, they wouldn’t have been filled in yet. The last thing they needed was for someone to break a leg falling down a hole.

They’d never get Clint to shut up about it, for one thing.

As the trio had stepped into the length of the airlock, Bucky gratefully dropping the box and having to readjust his balance now that he was no longer being blown around like a windsock, Sam had arrived in the rover, the pilot blown back into the cab by the force of the wind when he was able to pull the airlock door open.

It was only the luck of the Gods that Sam’s faceplate hadn’t shattered from how hard he must have collapsed back against the controls, but he’d rallied fast, pulling himself free with a determination that had seen him through multiple warzones. The winds were already so strong that he’d had to practically crawl across the surface to avoid being blown over, the pilot doubled over and leaning into the wind.

Rogers had, of fucking course, made to step back out the airlock to reach Sam, held back at the last moment by Thor wrapping one giant hand around his wrist, reaching out to Bucky with the other hand. It had taken Bucky an embarrassingly long time to realise that Thor was not looking to kumbaya it up, instead asking him to form a human chain, Steve and Thor stepping out onto the surface once more, while Bucky clung to one of the internal ribs of the airlock for dear life, craning his neck around to watch.

Steve, at the end of the chain, was swallowed up by the dust within a heartbeat of exiting the airlock, only the lights on his suit piercing the darkness as he made his way towards Sam, navigating by the torch on Sam’s helmet.

That had been the most terrifying moment of Bucky’s life. Steve was invisible, the lights on his suit doing nothing to illuminate him, but rather a couple of feet of the swirl of dirt in front of him.

It was like he was gone, swallowed by Mars never to return.

Bucky’s shoulders, already protesting a week of punishing manual labour, had felt like they were going to tear away from his body, his teeth grit against the pain as the storm tugged and pushed at Thor and Steve, and he’d felt the fingers of his right hand start to slip on the rib, his grip weakening as he was pulled towards the airlock door, unable to gasp out a warning around the pain.

Just as he’d been about to let go, the pressure had suddenly eased, Thor taking a step back towards him, Bucky’s shoulders no longer strained, and he’d been able to step closer to the rib, get his hand back around it and start to reel his friends in.

When they’d finally all staggered into the Hab proper, it was to find Natasha waiting, arms crossed over her chest, lips a thin line of judgement before she’d asked them what the fuck had taken them so long.

Bucky had grinned so wide his cheeks hurt. He’d never known Nat cared so much.
“Wind speeds?” Rogers asked.

“Sustained winds of over 100kph, gusts are up to 125kph,” Romanoff replied grimly.

“Fuck me, we’re gonna end up flying to Oz at this rate. What’s the abort speed?” They’d only been planet side for 6 sols, nobody wanted to have to leave so soon.

“Technically 150kph, though I wouldn’t wanna test it.” Wilson answered. “It gets above that, the MAV is gonna tip. Tip too far and-”

“And we’re fucked.”

“Thank you for that Buck,” Clint wrapped an arm around Bucky’s thigh, prodding approvingly at the muscle he found, as though he didn’t already use his friend as a pincushion on a daily basis. “Really uplifting.”

“How far into the storm are we?”

“It’s not good,” Romanoff twisted around to look at him. “This is only the edge of the storm; it’s only going to get a lot worse.”

What sounded like a rock smacked into the canvas, hitting against a rib, the sound echoing through the Hab.

Clint thumbed over his shoulder.

“This is the start?”

“Aren’t you from Iowa?” Bucky asked, slapping away Clint’s exploring hand where it was pressing appreciatively into Bucky’s hamstring.

“So? Ow!”

“Stop feeling Barnes up,” Rogers ordered, before turning back to Natasha with a frown.

“How much worse?”

Natasha shrugged. “I only act like I know everything, Rogers.”

“Best guess?”

“Well in excess of 150kph.”

“Shit!”

A brutal gust rocked the Hab, the internal supports bending and the canvas rippling, the sound of the wind deafening. Bucky almost preferred the silence of the surface. At least then he wouldn’t have known what was coming. It’d be better like that. Calm almost.

If you ignored the gasping for breath, the burning lungs, the swelling limbs and the death.

If that part could be avoided, Bucky would really appreciate it.

“Uh, Thor, you’re the God of thunder and shit, right? This your doing? ’cause I’d really appreciate you stopping.”
Without hesitation, Natasha leaned over and smacked the back of Clint’s head where he was slumped on the floor at her side. He grinned up at her.

“Believe me, Doctor, if it were in my power, I would do so.”

Natasha’s console beeped, a new setting of readings from the Eastward weather station scrolling down the screen. At her side, Sam let out a low whistle.

“Those aren’t great numbers, Cap.” The pilot reached over Natasha’s shoulder to press the screen, bringing up more data from where the MAV stood. “And these are worse.” Clint frowned up at him and Bucky could understand why; he’d never heard the pilot sound so unsure.

Nervous even.

When his eyes darted to Steve, Bucky’s stomach dropped.

The Commander looked no better than Sam, his hair a mess from where he was running his hands through it as he stared at the screen. As Bucky watched, Steve nodded to himself and squared his shoulders.

Rogers sighed, a massive heave of his chest.

He’d made a decision.

’No.’ Bucky thought. ‘Don’t say it. We can do this. Give it some time. Let it blow itself out.’

“Prep for abort,” Steve ordered, his tone brooking no defiance. He pointed to the screen. “It’s much worse than NASA predicted and I’m not risking this crew. We’re heading out to the MAV. I want us ready if the winds get to high.”

“We’re gonna go?” Barnes protested before he could stop himself. “We just got here! We can handle this.”

“Maybe we can, but we’ll hope for the best, prepare for the worst. I want everyone suited up.”

“You sound like my grandmother.”

“Wise woman. Come on,” Rogers turned to the rest of the crew, closing Natasha’s laptop. Into the airlock.”

“Buddy system?” Barton asked as the trooped dutifully into the airlock two-by-two like some human enactment of Noah’s Ark.

Which seemed pretty fucking fitting, seeing how Bucky felt like his world was ending.

“Buddy system,” Rogers confirmed as Thor, at the rear of the airlock, closed the door behind them for likely the last time, the wheel spinning as it locked into place with a hiss. From his position halfway down the airlock, Bucky took one last look through the small window in the door, taking in the messy tables and half-assembled equipment, the sweater tossed over the back of a chair and the wall with their family photos.

One last look at the time he stood on Mars.

Turning around, Bucky tried to look out the small window on the outer door. On a normal day, the MAV was easily visible from the mouth of AL 2, the great bulk of the ship standing proud and beautiful on the other side of the site.
But that was a normal day.

Visibility was even worse than the hour previous when they’d had to daisy-chain to collect Sam.

As Rogers pulled open the airlock, the heavy door was blown inwards, knocking Steve off his feet and slamming him into the wall of the airlock. Barton, standing next to him, had to leap backwards to avoid being flattened, instantly squatting down to help Steve to his feet, the two men bullying the door into the locked open position.

“You okay?”

“Yeah. Shit.” Steve patted himself down and checked his suit’s vitals, his relieved breath crackling over the comms when he saw all was as it should be. “Be careful guys.”

Looking out the open door, out into the pitch black, Bucky was reminded why he hated desert assignments as his stomach went tight. He was pretty sure his balls were trying to crawl back into his body on the off-chance they’d be safer in his abdomen. Two years he’d spent in the Peace Corps and most of it had been in isolated rural settings as he worked alongside the local people to engineer better water irrigation systems to improve their crop yields.

Many of those fields had been little better than the Mars surface, the soil loose and grainy, barely a step up from sand. When storms had sprinted across them and thrown the dust up into the air, quite beyond the difficulty it posed when it came to visibility, there was the question of vulnerability.

That shit got everywhere.

Down the collar of his shirts, down the waistband of his fatigues, into his boots no matter what the fuck he did...

Down his ass-crack.

It didn’t matter how he tucked in his pants into his boots and spats – much to the amusement of those around him – or how tightly coiled he wore a scarf around his neck, he got sand everywhere.

He spent two years with the most exfoliated ass-crack in the history of the world. Sure, he was baby-soft but it wasn’t worth it.

Beyond that irritation, when storm season really hit with a vengeance, you began to feel, watching the trees bending until their limbs kissed the ground and the sand blocked out the sun, that a divine hand was going to reach down from the sky and just straight up slap you out of existence.

Standing in the airlock, looking out into the darkness, Bucky felt nothing but dread.

“You sure about this, Rogers?” He asked without turning away from the straining to catch sight of the beacon atop the MAV.

Might as well have been on Earth for all that he could see it.

Why didn’t their helmets come with night vision?

“Unwilling to go?” Bucky appreciated how Steve was aiming for a teasing tone, but he missed by a mile.

Another gust shook the Hab, the canvas of the airlock rippling as the side and roof bowed in until Bucky thought the ribs would buckle and the airlock would tear. A heavy hand landed on Bucky’s
shoulder.

“Unable to stay, man. We gotta go.”

“And you’re coming with us,” Clint added as he grabbed Bucky round the wrist and tugged him towards the door. Shaking off the doctor’s hold, Bucky stepped out onto the surface, staggering under the full force of the winds as they slammed into him. Bucky’s heart raced as he surveyed his surrounds.

Something was off.

Something he couldn’t pin down.

It was just a feeling. He felt like a kid scared of the dark as he turned to watch as Thor clambered out of the airlock, and as he watched him close the door, adrenaline flooded through Bucky.

They were alone.

Six small people versus the wrath of the God of War.

Bucky might have been a cocky son of a bitch, but he wasn’t so stupid as to go toe-to-toe with Mars. He’d seen too many news programmes and documentaries to lie to himself about the survival chances of the average human when pitted against a super storm.

Shame surrender wasn’t an option.

“Hey,” Nat grabbed a hold of him and ushered them all into the lea of the airlock where they were protected from some of the wind.

“It’s going to be okay. We’re going to be okay. It’s like golf.” Bucky noted her own eyes were a little wild. Which on Natasha meant they were infinitesimally wider than usual.

“I know this – it is a short walk ruined, yes?” Thor asked from Bucky’s side, his bulk reassuring. Now if he were just large enough for them all to shelter behind on the trek to the MAV.

Bucky pasted what he knew was a piss-poor impression of a smile onto his face and slowed his breathing, turning once more to where he knew the MAV was.

“I’m fine, by the way,” Clint mumbled, knocking his shoulder against Natasha with a grin.

“And we shall all remain thus,” Thor intoned.

“Okay, kids. Enough of the love-in. Time to couple up. Romanoff and Barton, Wilson and Odinson, me and Barnes. Visibility is almost zero, stick together and home in on my suit’s telemetry if you get off track. The further we get from the Hab, the worse the winds are gonna be.”

“Looking forward to it,” Sam whispered.

“Let’s go.”

Two by two, they pressed through the gale towards their ark, stumbling through the winds, Steve and Bucky in front, followed by Thor and Wilson, with Clint and Nat bringing up the rear.

Their progress was extremely slow as they groped their way towards the MAV, clawing a few steps forward before being pushed backwards almost as many, or worse pushed sideways, the whole group having to stop to reorient themselves on the Hab, Steve pressing forward once again.
'Is this your way of punishing me?' Barnes asked before stumbling over a rock he couldn’t see, Steve’s arm flying out to grab at his arm in a way that reminded Bucky so much of how his mom used to do the same to him when he rode in the passenger seat of her car. She used to claim it was because she kept her bag on the seat when it was unoccupied and she was reflexively trying to avoid it hitting the footwell, but he always knew that was a lie.

Steve just straight up wanted him to not fall on his face and didn’t care that he knew it.

‘Huh?’

‘Making us abort. Making me walk through Hurricane Ares. This is you punishing me.”

Steve glanced away from looking ahead to look at him. From inches away the light on his helmet should have been blinding. Instead Bucky could barely make out his features. But still he caught the wink the Commander sent his way.

‘Now why would I do that?’

‘Because you’re a petty little shit, Rogers, and you’re still so fucking bitter that I outdid you on the Centrifuge and when you tried again to last longer than me you spent twenty minutes puking your guts up.”

‘Don’t know what you’re talking about.”

‘Sure you do-”

Bucky never stood a chance.

He never saw the antennae coming, one of the smaller dishes following immediately after to slam into him, driving him away on the wind. Steve’s arm flew out to the side again, but this time far, far too slow.

Too late.

His fingers closed on nothing as he threw himself to the side with a scream.

‘Bucky! NO!”

‘Bucky? Bucky?!” There was nothing but the breaths of the others and the impact of sand on faceplate. And his own heartbeat pounding in his ears. ‘Barnes! Barnes report!’

‘What’s happened,” Wilson asked, he and Thor several yards behind and utterly blind to what had occurred.

‘Something hit Bucky. He’s gone, I can’t see him.”

‘Jesus Christ…”

Steve reached up to his shoulder to reposition the torch, angling his massive body from side to side.

‘Bucky!”

The darkness didn’t answer.

‘Which way, man?”
Steve didn’t answer, continuing to search the area around his feet.

“Steve!” Sam slapped a hand against the man’s arm.

“Huh? What?”

“Which way did he go?”

“West.”

“Towards the MAV.”

“Yeah. We gotta find him.”

“We’re going to, we just needed to know where to look.”

“Barnes,” Natasha tried. “Barnes, so help me, report.”

No reply.

“Come on, Bucky. Gimme something.” Clint was begging as he took his place at Natasha’s side, looking like some sort of lovechild of a space-age ice skater and cross-country skier. Rather than picking his feet up as he walked, he was running them flat to the surface, and then just before placing it back to the ground, he swung his foot out to the side of the cover the maximum amount of ground as he searched for anything, any clue.

Silence.

“Buck!”

“I can’t get a read on his suit’s telemetry,” Romanoff reported, staring down at the computer on her arm. “I don’t know where he is.”

“Uh, Commander, according to my computer, his decompression alarm went off,” Barton added.

“Fuck. We’ve got to find him. He was driven off due west. Help me!” Steve dropped into a crouch, crawling through the sand, running his hands over the ground desperately.

“We’re going to find him, Steve.” Clint took heart in how sure Natasha sounded; she’d never failed once to do what she set out to achieve.

The wind kicked up, all five remaining crewmembers wobbling as they tried to adjust to the increased force. Regaining his feet, Steve turned to Sam.

“Wilson, get in the MAV, get it ready to launch. Everyone else, fan out, find him,” he ordered.

“St-”

“We’re going to need to get in the air as soon as possible, Sam. I need you ready.”

The tiny pricks of light that were Sam were soon swallowed up by the storm, the pilot invisible in seconds as he headed towards the MAV.

“Doctor, how long can he survive after decompression,” asked Thor as the four remaining members spread out.
“Less – less than a minute without compromise.”

Thor didn’t ask how long Bucky could survive otherwise.

“Move! Small steps, head west. He’s likely prone, shuffle your feet forward. You feel something, you tell me.”

Staying just in sight of one another, they followed Rogers’ orders, slowly trudging through the dark and chaos.

Far ahead of them, Wilson reached the MAV and punched the large green button glowing faintly at shoulder height. He couldn’t hear it, but he knew the port at the base of the MAV had hissed as it opened, the ladder descending with a clang, shaking and warping in the wind. Even underneath the MAV, he wasn’t fully protected from the storm, the winds pushing and shoving at him, his feet slipping on the rungs more than once, his body slamming into the ladder as he climbed the twenty feet to the airlock. The opening in the MAV was barely large enough for someone in a suit to enter or exit the airlock, but the airlock itself was a large recess in the base of the MAV, a deep shelf ringing the airlock that Sam hauled himself onto with a grunt, rolling away from the airlock to fight to his knees. Crawling back to the ladder, he slammed his fist down on panel to close it.

While the MAV didn’t currently have power or life support running, it had been only a little over an hour since Sam had completed his daily checks and the main cabin would still be flooded with O2, and it would be a hell of a lot easier to fly the damn thing, if he wasn’t constrained within his flight suit. Quickly shedding his suit – swearing up a storm the whole time at the time it was taking - while the airlock cycled, Sam clambered up to the next level, spinning the wheel on the second airlock door and pulled himself up into the crew compartment, slid into the pilot’s couch and fired up the systems.

Grabbing the emergency-launch folder, he flicked a series of switches rapidly with the other hand, checking off each system as it reported itself ready. One by one every system came on line and gave ready-status.

One gained his attention. The one he’d been most afraid of.

“Fucking shit!”

“Rogers,” he radioed, “we have a problem. The MAV is already reporting a 7 degree tilt. We reach 12.3 and we all fall down.”

“You’re not going to let that happen,” Rogers replied.

Back in the MAV, Sam made a face at his Commander.

“How the fuck does he expect me to do that?” He asked the checklist in his lap.

Three little letters caught his eye.

“Rogers,” Barton said, standing still to check over the computer on his arm, “Barnes’ bio-monitor sent a message. It says ‘bad packet’. I don’t know what that means.”

“I have it too, Clint,” Natasha said, looking down at her own computer but not stopping in her
search. “It means that whatever it sent didn’t get completed. Data is missing. The computer can’t interpret it. It’s like it’s corrupted.”

“What data did get through?” Steve asked from where he was back crouched down, practically crawling over the ground.

“Doesn’t work that way, Rogers. You gotta give me a minute.”

“We don’t have a minute!”

“Commander,” Wilson interrupted as a message popped up on one of his screens. “We’ve received the abort order. We’re officially scrubbed. We ordered to leave.”

“Understood.”

“The message was sent almost five minutes ago.”


“You’ve got to get to the MAV.”

“Not without him.”

“Clint, I’ve got the message. Blood Pressure: zero. Pulse Rate: zero. Temperature 36.2. That’s all it got through before it di-”

“Copy,” Barton said despondently, cutting her off.

They fell silent, hoping for a miracle as they pressed forward, nobody wanting to look to Rogers.

“Temperature normal?” Rogers’ voice sounded small, though it held a note of hope.

“It takes a while for a bod-” Barton sighed. “It takes a while to cool.”

The ‘even here’ was heard by them all.

“Rogers, we’re at 10.5 and getting pushed to 11 during gusts.”

“You ready to go?”

“Ready to launch at any time.”

“It tips, can you launch before it falls?”

“Uh,” Wilson hadn’t expected that. “Uh, yeah. Take manual control and go full throttle, pull up the nose and return to the pre-programmed ascent path.”

“Copy. Everyone home in on Wilson’s suit. Get into the MAV and prepare for launch.”

“What of you, Commander,” asked Thor, not moving from the man’s left.

“It’s not tipping yet. I have to try and find Barnes.”

“Commander-”

“You tip, you launch, Wilson.”
“You really think I’m going to leave you here?”
“I just ordered you to.”
“Steve-”
“It wasn’t a suggestion Major Wilson.”
“No, Sir,” Wilson grit out.
“You three, get to the MAV.”

With obvious reluctance, the other crew members abandoned their search, pushing their way together through the storm, their progress slow as the winds raged around them.

“I’m not arguing this, Sam.”
“The hell you’re not!”

Unable to see the ground, Rogers shuffled forward, reaching behind him to his pack; that morning he’d added two 1m long drill bits to his equipment pack in anticipation of his planned geological sampling that had been due to be carried out that afternoon, his revenge on Thor and his reign over the morning. Holding one in each hand, he held them like ski poles and dragged them through the dirt to his sides as he walked along.

“Steve!”
“You tip, you launch.”
“Thor, I don’t care if you have to knock him out an-”
“Get in the MAV, Thor. That’s an order.”
“Commander-”
“Get. In. The. MAV.”

Steve started a pattern of search, walking thirty metres in one direction before taking one step to the side, turning around and walking back in the opposite direction. He couldn’t walk a straight line because of the intensity of the wind knocking him sideways but he pressed on, pushing his feet through the sand that buried his feet within seconds.

Romanoff, Odinson and Barton squeezed into the airlock that was designed for two, and even then it was normally a tight squeeze. But today was an emergency and they made do. There wasn’t the room for all three to shed their suits at the same time, instead Clint and Nat rounded on Thor, keeping the large man mostly still as they helped him strip off his suit, only nearly falling back into the body of the shaft a few times. By the time they were done, the airlock had equalized and Thor was free to make his way up to help Sam; with the manual launch, Valkyrie wasn’t going to be where she was needed and the force of the storm would knock them off course. The crew navigator was needed before the doctor or systems expert.

With Thor gone, there was almost twice as much room in the airlock as before and Natasha and Clint were able to move around far more freely, shedding their suits with little care for where they fell. While they worked, Rogers’ voice came over the radio, desperation clear in his tone.

“Romanoff, would the infra-red camera see him?”
“No. Sorry, Rogers,” she replied, as she freed herself from the bulky pants by the expedience of lying on her back and wriggling out, something Clint idly noted she managed to make graceful. In a newly hatched caterpillar sort of way.

“IR can’t see through the sand any more than visible light can.”

“He’s a geology nerd,” Barton said, removing his helmet before following Natasha up the ladder to step into the MAV proper. “He knows that won’t work.”

“He’s desperate,” Wilson called from his seat. “He’s grasping at straws. You know how he fe-..”

He caught sight of Nat’s violent head shake as she entered the cabin. She was all too aware of the recorder that had ticked on the moment Sam had entered the airlock. There was no way she – or any other crew member for that matter – was going to disrespect Steve, or Bucky, by voicing their own personal business for all of NASA, and no doubt the world, to hear.

Even if it was clear that Houston already knew.

She could not save her friend, but she could grant them a modicum of privacy at least.

“Yeah,” Clint agreed as he shut the airlock behind him, securing it for Steve and Bucky, though he felt his surety that their missing crewmate would be found.

“We must prepare ourselves,” Odinson said, tilting his head to the side on his accelerator couch to view the newcomers. “You must strap in.”

“I don’t want to go without-”

“Neither do we,” said Romanoff, reaching out to squeeze Barton’s hand before climbing onto her seat. “But we follow orders.”

“It’s not right.”

“I know.”

“Get strapped in, kids. We’re tilting!” Wilson ordered.

Phillips would have been proud; hours and hours and hours he’d drilled them on variants of just such an emergency scenario, and Natasha and Clint were in their couches, securely strapped in and hooked into their respective consoles in seconds.

Whatever it was that Natasha saw on hers wasn’t good.

“Steve, we’re at 11.6 degrees. One more big gust and we’ll tip.”

“Commander, you must come now. The MAV cannot take much more of this punishment.”

“I’ve given you your order, Major Wilson.”

“Like fuck am I leaving you behind.”

Before he could answer, the tip of one of the drill bits hit something off to Steve’s left, the bit jumping in Steve’s hand as it tried to move whatever was in its path. A memory flashed up, unbidden, in Steve’s mind: the one time his father took him fishing. It’d been a terrible day for it, the morning starting off deceptively fine only for a storm that hadn’t been expected to come rolling in while the Rogers’ men were sat in a dingy dinghy in the middle of the lake, the water becoming
choppier and choppier until it began to slosh over the sides, soaking their feet.

So caught up in his fear had he been, the young Steve hadn’t had time to reel in his line and against all odds, when any fish with any sense would have hidden in the reeds and weeds at the bottom of the lake, the pole had jerked in his hand, the line playing out as whatever had grabbed it swam for its life.

The rain had poured, soaking them both to the skin – Steve had been chilled for days and it was only by the grace of God that he hadn’t wound up in hospital – while the waves had attempted to sink their little boat, and yet it was one of Steve’s fondest memories. His father had stood, one then-strong arm around little Steve’s waist to keep him upright, his deep voice yelling over the wind on how to let the fish tire itself out, other hand warm over Steve’s on the reel as he finally brought it in.

“I found something!”

Clint twisted around in his seat, already undoing his straps to scramble from his couch, hands sure on the airlock as he span the door open. “I’m on my way, Cap.”

As the mission doctor, Clint was the least necessary during launch and the most necessary on the surface right then.

Dropping the drill bit, Steve fell into a crouch, hands outstretched as he groped for whatever it was he’d found, eyes aching from the strain of trying to see into the murk.

“Bucky?”

The moment his hands hit the object, Steve knew it wasn’t the engineer. Even his gloved hands could tell the difference between cold metal and the softness of a body in a bulky EVA suit.

“Stand down, Clint.”

Stilled in the act of pulling on his pants, Clint pressed the intercom within the airlock.

“Cap?”

“It’s not Bucky.”

Releasing the button, Clint swore profusely and inventively.

“It’s the dish.”

“Does not that mean you are on the right course, Commander?” Thor asked.

“What about proximity radar?” Was Rogers’ only reply. “Can it detect Barnes?”

“I’m sorry, Steve. It can’t see the small amount of metal in his suit. It’s designed to detect Valkyrie.”

“Try.”

“Steve-”

“Please,” Rogers begged.

“I know you don’t want to hear this, but Barnes - Bucky…he’s dead. You’re not going to be able to save him,” said Wilson gently.
“I will. If you just help me. Try the radar.”

Wilson sighed, slumping in his seat as he looked over at Odinson. The man nodded.

“You must at least try. He would never forgive us should we not.”

“Roger,” Wilson radioed, flicking a number of other switches to bring the radar online.

“You couldn’t have found a better way to-?” Romanoff asked.

“My friend just died,” Wilson snapped as he watched the radar screen fire to life. “He was an asshole and half the time I’m pretty sure I wanted to punch him, but he was my friend, and I can’t even take him home to his ma. I don’t want my Commander to die too.”

Barton brought his computer on line, searching desperately for any hint of a signal from Barnes.

“Negative contact on radar.” Wilson radioed.

“Nothing? You’re sure?” Rogers asked.

“It can barely pick up the Hab. The sandstorm is fucking this all up and even if it wasn’t there isn’t enough metal to – shit!”

Breaking off, Wilson shouted for the crew to hold on.

“Rogers, we’re tipping!”

The MAV creaked as it began to tilt, fast and faster with every passing second.

“Commander, this is madness. Barnes is lost to us,” said Thor.

“I have to try!”

“Steve, you gotta-” Barton tried.

“He’ll die Clint, I can’t let that happen. He’d search for us.”

“We’re at 13 degrees,” Romanoff reported.

“We are too far past balance,” Odinson added, “we will not rock back.”

“We’re not leaving him!” Barton yelled. “Let the fucker tip, we’ll fix it.”

“It’s 32 metric tonnes including the fuel,” Wilson called as his hands flew across the control panel. “It hits the ground, it’s gonna do structural damage to the tanks, the frame, the second stage engine… We’d never fix it. Assuming we don’t all die in a horrific explosion.”

“We’re not leaving them!”

“I’ve got one thing to try and if it doesn’t work, we won’t have a choice.”

Flipping to a page at the back of the emergency manual, Wilson put into action the plan that had been brewing in the back of his mind since he’d started the start up sequence. Reaching over to the array of switches before him, he brought the Orbital Manoeuvring System online and fired a sustained burn from the nosecone array. The small thrusters there fought against the weight of the MAV as it tipped, trying to push it back.
“You think the OMS will slow our tip?” Odinson asked. “The aerodynamic caps will have automatically ejected. We shall have a bumpy ascent.”

“Better bumpy than not at all.” Wilson maintained the burn as he called out to Natasha. “Better bumpy with Cap on board.”

“Romanoff, how’s the tilt?”

“13 degrees.”

“What’s happening?” Rogers asked.

“Standby,” Barton replied.

“12.9 degrees,” said Romanoff.

“We are moving back. This is working.”

“For the moment,” Wilson reminded Thor. “I don’t know how long the fuel will last.”

“12.8,” supplied Romanoff.

“OMS fuel at 60 percent,” Barton reported. “How much do we need to get back to Valkyrie?”

“Assuming I don’t fuck up, 10 percent.”

“12.6,” said Romanoff. “We’re tipping back.”

“Or the wind is chilling out,” theorised Barton. “Fuel at 45%”

“We are at risk of damage to the vents,” Odinson cautioned. “OMS was not designed for such prolonged use.”

“Think I don’t know that?” Wilson asked. “I can dock without the nose vents if I have no choice.”

“You are sure?”

“You got a better idea, Thunderclap, I’m all ears.”

“We’re almost there…” Natasha interjected. “We’re there. 12.3”

“OMD cutoff.” Wilson terminated the burn.

“We’re still tipping back. 11.6…11.5…holding at 11.5”

“OMS fuel is 22%”

“I can see that, Doc. I can do it with that.”

“We’ve got to go,” Nat announced.

“I know that!”

“No, I mean we have to go now.”

The three men in the cockpit turned to look at her, Clint unhooking his belt, waving away Sam’s order to reattach it as he threw himself across Nat’s lap, whistling at what he saw on the screen.
“That real?” He asked.

“That?” Sam asked.

“Unfortunately,” Nat answered.

Clint whistled again.

“What?!”

“The Southern most weather station is down. I don’t know if it’s knocked out or flying towards us, but it’s down.”

“We sank the weather stations into the concrete-composite, did we not?” Thor asked. “It is capable of sustaining very high winds.”

“Yeah,” Nat breathed. “The last readings were of the ‘Ragnarok’ variety. We have to go.”


“That will affect our course.” Thor bent over his console once more to adjust his calculations, activating his comms at the same time.

“Commander, you must cease your search and join us in the MAV. The weather is worsening further.” radioed Odinson.

“We can’t! We have to find him. He needs us to find him! Just leave me.”

“Not fucking happening.”

“That’s an order, Major.”

“Fuck that.”

“Major W-”

“Fuck you for suggesting it.”

“I find I must second that Commander. We shall not leave you.”

“Me three,” Clint chimed in.

“You stay, we stay, Cap.”

“You have to go,” Rogers commanded.

“You stay to die, we all stay and die,” Sam responded.

For all it was non-verbal, Sam’s reply did an incredible job of saying clearly ‘He’s gone, Cap. We have to leave him. You have to get back to your crew.’

“Steve…he’s gone-

“No, Natasha! I’d know. I’d feel it. I’d know.”

“Cap-”
“No! I’m not giving up. He’d never give up looking for us. I’m so close, you know it! I have to find him. I need to.”

“Steve…” Rogers couldn’t bear the softness of Natasha’s voice, or the pity in her tone.

“Steve, you need to get in the MAV.” Natasha’s voice was steady, but a glance to his side clued Barton in on just how rocked she was.

"Not without him!"

“Steve-”

“We can’t leave him here!”

“We don’t have a choice. We’re going to lose the MAV. We’ve already lost Bucky, don’t make us lose you too.”

“He’s gone, Steve,” Natasha whispered gently. “Bucky’s gone. Please, get to the MAV.”

Rogers didn’t reply, the crew sitting in silence as they waited for him to answer.

Finally, his radio crackled online. “Understood. On my way.”

Barton tipped his head to the side and stared at Barnes’ empty couch beside his, catching Natasha’s eye as she did the same, her expression distraught.

“We lost a fine man today,” Thor broke the silence as he keyed in the last of his adjustments – by his calculations they should all get comfortable. Valkyrie wouldn’t be able to meet them for two hours once they were free of the surface, her placement in atmo not remotely optimal.

Wilson ran a diagnostic on their OMS thrusters, the readout informing him they were no longer suitable for use. He logged the malfunction by rote, just as he heard the airlock cycle.

Rogers made his way into the cabin in silence, wordlessly strapping himself in, his face a frozen mask, eyes red, refusing to meet the pitying looks of his crewmates.

Only Wilson broke the silence.

“Still at pilot release,” he said quietly. “Ready for launch.”

Rogers closed his eyes and nodded.

“I’m sorry, Steve,” Sam whispered. “I need verbal confirm-”

“Launch.” Steve’s voice was destroyed, rough and broken.

“Confirm.” Wilson activated the sequence.

The retaining clamps ejected from the launch gantry and fell to the ground. The preignition pyros fired and the main engines ignited and the MAV lurched upward.

Leaving Barnes behind.

The MAV slowly gained momentum, but the wind blew it off course sideways, the software angling the ship into the wind to counteract it and get the vessel back on course. That didn’t mean it was comfortable however, the remaining crew members not just thrust back into their couches, but shaken and rattled around, their bodies straining against their restraints as the MAV vibrated and
As the engines burned through the fuel, the MAV became lighter and the faster it accelerated, and the harder the crew were forced back into their seats until they felt they couldn’t take it anymore without losing consciousness. Rising from the surface of Mars at an exponential rate, the craft quickly reached its maximum acceleration.

As the MAV soared towards orbit, the open OMS ports took their toll, the MAV shaking violently and throwing the crew around far more viciously than the winds had managed. Wilson and the ascent software worked in tandem to battle to keep the MAV on track to rendezvous with Valkyrie, but it was no easy battle. As the atmosphere got thinner and thinner, the turbulence tapered off before fading away to nothing and Sam was far more able to react to how off-course they now were, Thor beside him recalculating and adjusting their course, Natasha on his other side communicating with Valkyrie.

Then, from one second to the next, it all stopped, the first stage completing and the crew experienced, for a few seconds, weightlessness, before being slammed back into their couches as the second stage kicked in. The first stage fell away, to crash somewhere on Mars, already far beneath them.

Clint had a brief, horrific, thought of it landing upon Bucky.

The final insult.

Natasha, with her near-psychic intuition, seemed to sense his distress, one hand reaching across the empty couch to Clint, the doctor managing to brush their fingertips together just before the second stage kicked in and they were forced back into their seats as they headed to low orbit where they’d wait for Valkyrie to arrive.

The second stage pushed the ship into low orbit in less time that the first stage had gotten them that far, the trip much smoother. Abruptly, the engines stopped, an oppressive quiet and calm replacing the chaos of noise that had accompanied the ascent until then.

“Main engines shutdown. Ascent time 8 minutes and 14 seconds. We are on course for Valkyrie intercept in one hundred and nineteen minutes.”

Under normal circumstance an incident free ascent would have been met with cheers and celebration. This one earned silence only broken by a heaving sob from Rogers.

Four months later…

Even after what had occurred back on Mars, NASA wasn’t one to waste research time. The astronauts were as busy on Valkyrie as they would have been during surface operations. They might have only been away from Valkyrie for six sols, but the experiments they’d all been conducting aboard her on the journey to Mars had carried on in their absence, terabytes of data collecting in their various labs, just waiting for them to return and make sense of it all. The five remaining crew members of Ares 3 had almost caught up with the backlog of work, taking over Barnes’ work in his absence.

In what had been Bucky’s lab, Clint tried not to think about why he was floating there watching over
Bucky’s plants, researching zero-g plant growth. Barnes had kept detailed notes and it wasn’t hard to follow them, noting the size and shape of the ferns leaves, taking photos and making notes, before sending it all off in the day’s downlink to let someone at NASA who actually understood it to figure out what to do next.

The plants weren’t that bad company, and they didn’t complain about his excellent – fuck you very much, Wilson – musical choices and they didn’t require a lot from him. He could barely keep himself alive at the best of times, MD aside, but he’d kept Pizza alive and if he could keep his dog happy and healthy, a bunch of ferns and grass were nothing.

It was kinda nice actually. If a fern died, it wasn’t the end of the world. A yellow leaf or a wilting stem were a fuck of a lot less stressful than dealing with the ailments of his human crewmates. Maybe Barnes would have found it devastating to lose a plant, but Clint?

Not so much.

Being around the plants was restful. He’d find himself multiple times just running his palms over the tops of the grasses, feeling the tips tickle and bump against his skin, the fresh scent of the dirt reminding him so strongly of home. On more than one occasion, Clint had wanted to strip his socks off and bury his toes in the grass, close his eyes and sit under the sunlamp and just doze off, images of homes flashing through his mind.

Well, truth be told, he’d more than thought about it. But NASA didn’t need to know about that, now did they?

Rogers had walked in just as he’d started to strip off his second sock, eyes darting from Clint’s waggling toes to the wide open case to the ‘greenhouse’, put two and two together instantly and forbidden Clint to ever do that again.

Which wasn’t fair in the least. All that expanse of green and not getting to pull up a stool like a deck chair was just a crime.

What Rogers didn’t know…

Today had been fairly boring, if predictable, data entry dominating most of his time, with a couple hours spent setting up the most artsy shots of his favourites of the plants to send back to Houston.

He had favourite plants.

What a world.

When he finished, he checked his watch and smiled.

Perfect timing.

The data dump would complete soon, and he was hoping for an email from his brother and a couple friends back on Earth. Because of the time lag, they could currently only communicate via email and pre-recorded videos.

Barney had been hesitant about it at first, complaining that with his brother in space he had little to really talk about that wouldn’t seem achingly boring. Clint’s attempt to explain to him that ‘boring’ was exactly what he wanted hadn’t gone entirely to plan.

Which boiled down to Barney getting extremely offended that his ‘superstar brother’ thought he was boring.
No amount of telling Barney that he’d been the one to use the word first hadn’t gone down well either.

Two weeks of radio-silence and then short, sullen messages from Barney later, the two had found a happy medium of filling each other in on the minutiae of their days. When he was feeling particularly philosophical Clint would ponder on how he and his brother had never gotten along better than when there were tens of millions of miles between them.

Seemed about right.

Coming out of the lab, he floated past the reactor to the Semicone-A ladder, and travelled feet-first along it, gripping the rungs in earnest as the centrifugal force of the rotating ship took hold and gravity began to take effect on him. By the time he reached Semicone-A, he was at 0.4g and able to walk along the corridor instead of Superman-ing it along.

It was the same gravity he’d experienced back on Mars.

Pushing the thought aside, he made his way along the corridor, grateful for the gravity. It wasn’t just a luxury, it was an essential part of long-term space travel. Without it, by the time they’d reached Mars, they’d barely be able to walk upon the surface with how much muscle mass they’d have lost. The gravity helped to keep their heart and bones healthy and minimized the muscle loss. He lectured the rest of the crew daily on their need to spend enough time in the portions of the ship with gravity, above and beyond the hours they were required to spend in his gym.

Two and a half hours, six days a week, their asses were his.

The best bit?

They couldn’t say no.

Power trip 2036. Nothing ranked higher than the crew submitting to their training regimens except sleep and food.

Because it was important.

Clint didn’t just chase after them for fun – and it was fun. He did it because he didn’t want his friends to be prematurely old. For every month in space, even with weight-bearing exercises, astronauts lost on average 1.5% of their bone mass per month. For a year long trip that was 18%. The loss was roughly ten times the speed of the loss due to osteoporosis and the crew were looking at four to five years of recovery to build their bone density back up.

Clint, and most of NASA, considered that unacceptable, not least because of the cost involved. The loss of bone density didn’t just mean a higher risk of fracture, particularly during descent, it also increased the risk of kidney stones.

For each member of the crew – aka his labrats – he’d devised specialised workout programs to determine the effect of different exercises upon bone density, RBC count, blood volume, kidney function and vitamin D levels.

They were his personal pin cushions.

His three main torture devices were the series of specialised treadmills, the cycle ergometer and the advanced resistance exercise device. He kept his beloved machines in tip-top condition – or Barnes had and now he had to do his best to ensure they were maintained properly – while they in turn kept those aboard Valkyrie as healthy as possible, in combination with a strict diet and supplement plan.
As with the exercise, each of the crew had an ever so slightly different supplement plan consisting of different doses of calcium, vitamin C, minerals, anti-oxidants and no end of other shit that Barton got to write note after note after note about.

Which was less fun than the ordering people around portion of his job.

But overall, working to change the face of human space travel?

Fucking awesome.

Except one part.

Steve Rogers.

Sam had been right in the end: Steve, the Steve they all knew had died that day. The man who led them now was changed, warped, like a poor copy. This Steve didn’t hold himself right, walk right or talk right. This Steve wore a face so achingly familiar and yet that of a stranger, full lips never lifting into a smile or creasing with laughter.

Steve Rogers died on Sol 6.

They were left with Commander Rogers.

Whereas the others submitted to his demands to hit the gym with a general chorus of ‘I’m fucking going, shut up’, despite knowing they had to attend their sessions for their own good, Steve was getting dangerously close to spending too much time in the gym. He’d carry out his prescribed regime like the good little Boy Scout he’d no doubt been.

But then he’d come back. Sometimes more than once. More often than not in the middle of the night when he thought nobody else would notice.

Like so many, he seemed to forget that Clint wasn’t actually anywhere near as stupid as he was happy to let people assume. Not to mention his bunk was across the hall from Steve’s and the other man’s door squeaked which Clint, who in direct contravention to his own orders often stayed awake pretty late into the night, would hear when the Commander snuck out like a kid evading curfew.

There was such a thing as too much exercise and Clint would much rather Steve spend that time asleep or eating, both things Cap was lacking in, but no amount of gentle hints, strong suggestions, and flat-out orders seemed to get through the guy’s thick skull. Over the weeks and months, Clint had tried to get Steve to take better physical care of himself if nothing else, using his clout as the crew doctor, threatening to utilize his right to take command of the mission should he deem that Rogers was incapable of doing his job, and each time Steve had played along for a few days. He’d turn up to meals, make a show of eating with the group. Then it would all taper off again. Clint would hear Steve slink out of his bunk in the middle of the night. He’d stop turning up to meals. He’d be in the gym more often than not.

Too many nights Clint had laid awake grappling with the responsibility the doctor of a crew held – he, and he alone, could relieve Steve of his position as Commander on medical grounds.

Clint had done what any good kid did when his dad didn’t listen.

He went to the mission mom.

Sam hadn’t been able to get through to Steve either, their Commander pulling further away from them all with every passing day.
Case in point, the bridge.

Romanoff was at her station, watching the data packet come through, Wilson – with his hands gripping the back of the chair as he peered over her shoulder - and Thor standing behind her– the data dump was the highlight of everyone’s day - with Rogers a few steps away, a coffee mug in his hand. He looked like hell. Steve carried his exhaustion like a coat, wide shoulders bowing under its weight. His eyes, even now, were red-rimmed more often than not, deep lines etched at the corners. The dark circles under his eyes were jarring against the pallor of his skin. All that was before you got to how much weight he’d lost, their commander no longer eating as much as before, the line of his jaw startlingly sharp. Largely he seemed to survive on coffee.

Knowing there was nothing he could do to help his friend, that was the worst.

Barton had tried, God knew he tried, but what could he say to a man with a broken heart? What would make losing Barnes and leaving his body behind easier to bear? If it had been Natasha, Clint knew he would be no better off.

Many times in his life Clint had felt lost and powerless, but never more so as he watched his friend die slowly in front of him. Clint knew the signs. He’d seen them in himself often enough, and to see them in Steve was heart-breaking.

Self-care had become a thing of the past with his friend. He hadn’t shaved in weeks, his beard ragged and unkempt. Weight continued to fall from the man; despite continued attempts by the whole crew to get him to eat, Rogers was eating just the bare minimum to keep Barton from having cause to strap him to a table and force him to eat or suffer an IV.

The kind of exhaustion that plagued Steve was the kind that sleep would never fix, not that the Commander was getting any. Too many nights Clint had heard Steve creep by his room on his way back up to the observation decks or the gym or, on several crushing occasions, Barnes’ bunk. When the soft hitching sobs had started, Clint had removed his aid, debating with himself as to whether to go to his friend’s side. During the hours of ‘daylight’ on Valkyrie each and every member of the crew found their attempts rebuffed. Rogers was a deeply private man, not one used to leaning on others. He’d warred within himself for ten minutes before swinging his legs over the edge of his bunk, fumbling for his covered mug and creeping out into the hall, leaving his aid behind. For over an hour he’d stood guard outside Barnes’ bunk and had Rogers emerged, he’d have been treated to the act Clint had been perfecting, all sleepy-eyed bumbling and clumsy signs about fetching a drink, the empty mug held up as evidence.

Rogers had slept the night in Barnes’ bunk, and Clint had been woken by Thor lifting him up from where he’d slumped against the bulkhead and over one shoulder on his way to the Rec Room. It hadn’t been a bad way to travel all told.

Hadn’t solved the problem of what to do about Rogers, though.

Barton stepped up to Rogers’ side, offering him a smile as he did. The Commander’s lips twitched, but Barton wouldn’t call it a smile even on his most generous of days. He could practically feel the tension flowing off Steve, the Commander wanting to step away from Barton, away from the modicum of human comfort that his friend could provide.

In the first surprise of Clint’s day, Steve stayed still.

“It finish yet, Red?” He called to Natasha, rather than draw any attention to his having noticed.

The data dump was the best part of Clint’s day. It was the only time, for maybe fifteen minutes, that
he could push thoughts of leaving his friend behind. Of forcing Rogers to leave the man he loved behind.

Of course it was also the worst. The immediate cessation of messages for Barnes and the wave of guilt he felt immediately after reading messages from home, knowing there were people, good people who he couldn't even give a body to bury that were never going to have the simple happiness of a message to a loved one again tempered his joy.

“Call me that again and you’ll have one less appendage.”

“Do I get to choose which one?”

“What do you think?”

Clint winced and cupped his groin reflexively

“Sorry, milady. Is it finished yet, Miss Romanoff.”

“Nearly. Couple percent left.”

“You appear excited, Son of Wil,” Thor said to Sam, his nickname for the pilot bringing a grin to the man’s face.

“Riley’s kid turned 2 yesterday. Marissa promised me a video of him eating birthday cake.” Sam was the godfather to his former flight partner’s son. Riley had been killed in combat while his wife had still been pregnant, devastating Marissa and Sam, and Sam had stepped forward to help support Marissa and little Michael. He was as proud of the little boy as any father and any pictures or videos that were sent were met with excitement and boasting to the rest of the crew that there was never a more perfect kid. Sam’s lab and bunk were practically wallpapered with the adorable toddler’s face.

It was becoming a problem.

“What about you?

“Nothing of such import. My Jane promised to send her latest work.”

Clint couldn’t help his wince. It had to be love for Thor to look that excited over astrophysics. The guy was practically bouncing on his toes in anticipation. Although Clint figured he couldn’t exactly hurl any rocks seeing as how he’d listened to Nat talk about coding for two hours straight the night before. He’d fallen asleep at some point, so he figured he was going to suffer for that at some point, but his point was, while he’d been happy to listen to Nat’s big idea, he hadn’t exactly been jumping up and down to do so.

Thor really was a god amongst men.

“It’s complete,” Romanoff said. “I’ve dispatched all personal emails to your laptops. Thor, there are some telemetry updates for you, a system update for me and…huh…there’s a message for all of us. It’s a voice message from Houston.”

She glanced over her shoulder to Rogers.

He shrugged.

“Play it.”
Clicking on the message, Natasha sat back.

“Valkyrie, this is Tony Stark.”

“Stark? Why isn’t he talking to us through CAPCOM?”

Rogers held up a hand for silence and Wilson fell silent.

“What I’m going to have to tell you, you’re not going to understand. I promise I will explain it all properly, in full, when you get back. I will draw you pictures, I will perform reenactments, I will use puppets...but for right now, you have to just listen to me.

“As you probably know, I’m not big on subtle, and there’s no subtle way to say this anyway: Barnes is alive.”

“Fuck me!” Barton blurted as Natasha sat up straight, Thor looking to Rogers whose face was a rigid mask.

“I know that’s a surprise. It was to us too. I know you’re going to have a million questions and I’ll answer them, but for now, here’s the 411.

“Two months ago, we discovered he was alive. Actually a sassy brunette called Kate discovered it. He’s healthy. And bitching about a certain young lady’s shitty taste in music. Seriously Romanoff? You’re a hottie but disco is nottie. Only someone who didn’t live through the 80’s could love them that much. The rest of us? I’m still in therapy. Still looked good with a perm though. I was one of the few. A real trendsetter. Stay away from shoulder pads though, nobody can make them look good.”

“It was decided not to tell you until a plan was devised, and I’m telling you right now, I fought to tell you. I fought Fury to be able to tell you. I was overruled and all emails and messages to you from family and friends were heavily edited to ensure that you were not informed. Because Big Brother is big on the spying. So not only were you lied to, your privacy has been violated. Yay. But now we have real communication – that boy really can fix anything - and a plan, I’ve been cleared to finally give you the good news – we’re modifying Ares 4 MDV to pick him up.

“I’m preparing a full explanation of what happened, but it’s not your fault. Barnes wanted me to tell you that. He’s said it a lot. Every conversation actually. It was shitty luck, nobody’s fault. Especially you, Spangly-pants so get down off that cross you’ve nailed yourself on.

“Take some time, let this sink in. Your schedules are cleared for tomorrow, because that’s just how benevolent our Director is. Think it’s his way of apologising for lying. You can prepare all the questions you want. We’ll answer them. Truthfully. If you wanna get head-shrunk, Garner will be around. Rogers, you wanna go for Fury, I’m all for it. He’s waiting for you to contact him, I can tell. Stark out.”

Stunned silence filled the bridge.

“Barnes still lives,” Thor beamed. Barton launched himself at him and threw his arms around him for a hug.

“He’s alive, holy shit, bro, he’s alive!”

“He’s alive...your boy’s alive,” Wilson turned to Rogers, his smile fading at the inexpressible expression on the Commander’s face, the devastation in his eyes, skin pale as though he were about to vomit.
“I left him behind,” Rogers whispered. The coffee cup slid from between lax fingers, the plastic bouncing as it hit the floor.

“No, Rogers,” Romanoff stood and stepped closer. “We left together.

“On my order. *I left him behind.* I left him on a barren, unreachable, godforsaken wasteland. He came because I tracked him down. I asked him to join this mission. He’s there because I left him there. He might still die because I didn’t look hard enough. He dies, I—” Steve dry-heaved, throat working to keep down what little he’d eaten that day.

Clint looked pleadingly to Wilson, who opened his mouth to say something, anything.

No words came.

Rogers stumbled from the bridge. As Steve dropped to his knees just outside the command centre, and braced his hands against the bulkhead, Sam reached him and squatted down next to him.

“Steve?”

Steve let out a horrific retching sound, his back heaving beneath Sam’s hand.

“You’re okay, Steve. Just breathe,” he said, repeating it over and over as he rubbed his hand up and down Steve’s spine, keeping his movements controlled and soft, feeling the fresh sweat that broke out across Steve’s back dampen his shirt.

He was dimly aware of Nat squeezing past them and setting off down the hall, Clint trailing seconds after. Steve didn’t appear to notice, just continuing to heave, his breath coming in pained sounding gasps. Thor came up beside him just as Steve stopped coughing, one large hand wrapping around Steve’s arm, helping the now kitten-weak Commander to lever himself away from the wall and avoid falling in the mess.

“Come, Commander, we’ll see you to your bunk.”

Steve just shook his head, but there was no fight in him as Sam and Thor both leaned under his arms and stood. Both men were strong and fit, but Steve wasn’t small even with all the weight he’d lost and it took time to help him get his feet under him, his movements jerky and uncoordinated.

“The mess,” Steve murmured.

“I’ve got that,” Nat whispered as she came back up the hallway holding a bucket of cleaning supplies. She dropped it to the floor with a clang, and reached up to clasp Steve’s face in her hands.

“They’re going to make it okay, Steve.” She looked so sure, so fierce in her assurance that Sam believed her. “They’re going to save him and we’re going to help. They’ve got us now and nobody knows that place or Bucky better than us.” She placed a gentle kiss to his cheek before stepping back. “I’ll be down in a minute, okay?”

Steve didn’t answer.

Nat darted a helpless look at Sam who shook his head sadly. He’d never seen Steve without his fire, without the innate fight that fuelled him. In the last few weeks he’d seen that anger turned inward, seen it eat away at Steve, but now it had extinguished. It was like learning your favourite superhero was just a guy in a suit.

Nat rocked up onto the balls of her feet to whisper into Sam’s ear, “Clint’s gonna meet you at Steve’s
bunk with an IV and a sedative just in case.”

“I shall return post-haste Miss Romanoff, to assist you.”


“As though he were my brother,” Thor promised, he and Sam beginning the slow walk to Steve’s room, Steve’s feet slapping between them as though his brain had forgotten how to make them move, his friends dragging him along more than supporting him.

As she knelt, dunking a rag into the soapy water, Natasha’s mind was in overdrive.

Barnes was alive.

Holy shit.
Chapter Summary

A lot of people talk to each other. They don't always like what the other has to say. Some people don't get to talk to the people they want more than anything to talk to.

Chapter Notes

A day late but hopefully not a dollar short.
Apologies for the delays, I've been super blocked and despondent with my writing, finding it really hard to get motivated.

At Isodyne Energy, the workers were on double shifts, working around the clock and even then, there was talk of triple shifts as NASA once again increased their order. Unlike in many workplaces, the employees would have been happy to pick up the extra shifts – the overtime pay was spectacular, which was deeply appreciated by the employees.

Roxxon, IE’s parent company, was not the most generous of corporations, the salaries of the upper executives several digits longer than those that actually did the hard work, their Christmas bonuses in the millions while the workers received letters of thanks as their bonus. But the union, largely useless in the face of Hugh Jones’ fleet of lawyers, had managed one thing; extravagant overtime pay. The employees were a hairs breadth from a fist-fight over who would get the extra work.

Those that were awarded the shifts, kept watch over the army of machines in their care as they whirred and whined and worked. Woven carbon thread ran slowly through the press which sandwiched the thread between polymer sheets. When the material was finished, it was examined by no less than five individuals, before it was folded four times and then glued together. The resulting thick sheet – nicknamed ‘puff pastry’ by those that worked on it, was then coated in a soft resin and taken to the hot-room to dry and set.

Log Entry: Sol 114

Y’know how in life there are those moments that are defining? That you can only think of in terms of ‘before’ and ‘after’?

Most of us have a few of ‘em in our lifetimes. I’m having more than a few just on Mars.

Before and after stepping foot on the surface of another planet.

Before and after the storm.
Before and after getting comms.

Back in school I had a pen-pal. It was one of those voluntary programs, y’know the ones, where voluntary has a real special definition of ‘you gotta do it’. My school was one of a handful in the area that got picked to make international friends, and my dad was real fucking excited about it – he’d never been outside the States, I don’t know if he even had a passport- and so I tried not to complain about it all that much.

Which means I was real shit at pretending like the world wasn’t ending because I was having to write to some stranger on the other side of the world. I wasn’t as good at pretending at the age of eight as I am now. Now, I’m a suave fake-it-til-you-make-it dude, but back then…let’s just say Ma had to take me aside a few times. Fuck, she even got Father Patrick to talk to me about ‘being grateful for our opportunities, James.’ Nothing like a good bit of guilt to get a guy to do what you want.

Guilt and the threat of Hellfire.

It’s a winning combination.

My German was, and is, complete shit, so luckily I got matched up with a kid that knew English, Kurt. At first it about what you’d expect from kids being forced to do something – a few lines of pleasantries. ‘The weather here is fine. I hope it’s good for you. I watch cartoons on Saturday but not Sundays because I have Church.’

You know, the usual.

But over time, for whatever the fuck reason – on my end it was my dad finding my shit poor excuse of a letter before I’d found an envelope and reading me the riot act – we started sharing shit. Small stuff at first, the books we wanted to read, the movies we’d seen, the kid in class that always pushed us around, the hymns we both hated from Mass...

Turned out, Kurt was obsessed with Errol Flynn. Obsessed. Think how I am about space, now times it by a lot and that’s Kurt and Errol. To this day I don’t know if he wanted to be Errol or fuck him, but whichever it was, it was deep and it was real.

He was also fucking hilarious. He was always writing to me about the pranks he’d pulled on people in his class, even sent me instructions on how to pull off some of his more elaborate schemes that would get me in the least amount of trouble if caught, but also the most respect if I managed to get away with them.

It was about 50/50 if I’m honest.

I’m a pretty charming guy, but Kurt managed to get away with all of his tricks, so maybe he channelled a little more Flynn than I managed.

Kurt had a crazy imagination. He’d write these epic letters that Thor would have been fucking proud of, concocting these strange stories and tales, all about a little boy that had been born blue and with aprehensile tail that had run away to the circus because his family thought he was a monster. This kid found the acceptance with the circus folk that his only family had been unable to provide, and was finally happy, having friends for the first time in his life. Between his natural agility and his tail, the Nightcrawler became the star act of the Big Tent. When he hit puberty, shit got real, and our lil’ blue boy began being able to teleport.

Sounds like a comic book, right?
It should shock fucking nobody that he grew up to be a writer. Got on the bestseller lists too. A month or so before I left for Houston, I was walking past a bookstore a few blocks from my apartment and there was a line around the block all for Kurt.

I debated for about fifteen minutes about whether to go in or not, to introduce myself or not, or if even he’d remember his old friend Bucky.

I should have gone in.

It weird that I’ve spent days up here regretting not goin’ in and seeing this guy I’d never met but shared my childhood hopes and dreams with. But standing there on that street, just about able to see his head bowed over the table as he signed book after book, I was so fucking proud of this guy I hadn’t talked to in a decade and a half. Who’d have thought, back when we were stupid kids, that we’d both be living our dreams?

I get home and he can write my biography.

For all I know he already is.

Where am I going with this story?

Oh, yeah.

I got pen-pals again.

This time they were even voluntary. Wanted, even.

Except…

You know the problem with communication?

Now I got it, NASA won’t shut the hell up, and their stories ain’t nearly as good as Kurt’s.

I know, I know, I worked really fucking hard to get this, and I’m so grateful but do you know how frickin’ galling it is to have a buncha people on Earth micromanaging my crop up here like I’m some dumbass?

I wonder how I managed to cultivate soil and grow plants.

Oh yeah, I’m a freaking botanist. I’m so fucking good at my job I was sent to fucking Mars. But sure, don’t trust me or nothin’.

I don’t wanna boast, or sound arrogant, but let’s face facts: I’m the best fucking botanist on Mars. I colonized this planet. Me. All on my own. Only blew a few things up.

Another buncha people are bugging me morning, noon, and night about the Hab systems, about the rover, about my modifications, most of which have them pissing their pants as ‘unsafe and ill-advised’…

You know what else was unsafe and ill-advised?

Getting fucking left on Mars.

For that matter, going to Mars.

Don’t hear me bitching about that, do you?
Uh…moving on.

They wanna run a hundred simulations before they’ll let me breathe on my own goddamn equipment.

Wait.

That came out wrong.

But you know what I mean.

We’ve all had that boss. The annoying dipshit that thinks he knows everything and just gets in your way with ordering you around and then stands over your shoulder to tell you everything you’re doing wrong and makes you take three times as long to complete a task.

NASA could teach that asshole a thing or two.

But here’s the thing. It’s a very important thing, from my point of view, and figuring it out made me so much happier.

What the fuck can they do to me if I don’t listen?

It’s easier to beg forgiveness than ask permission.

But I ain’t begging.

I’m just telling.

Suck it, eggheads. You trusted me enough to make me part of the crew. I managed to keep my fine ass alive by myself for several months.

I got this.

It’s like they forget I gotta traipse out to the rover every time they want me to talk to ‘em, which is really eating into my day and I got plants to maintain, a Hab to maintain, the Golden Girls sequel to start to watch.

I didn’t even know there was a sequel, and it looks like complete shit and so I gotta watch it and yet instead, I’m cooling my heels in R2D2.

How new and different for me.

If this were college, I’d kit it out with a shitty futon, maybe some sort of candle arrangement – shut up, you’d be surprised how well having those around worked with the ladies and gentlemen of NYU – some junk food, a stereo...

Pimp my rover, is what I’m saying.

As it is, I got a couple food packs, that are for emergencies only, a couple of super thin mattresses that I threw in the back, a new light that I jerry-rigged in the cab so I could see better, and some of Steve’s music.

It’s as shit as it sounds.

Imagine sitting behind the wheel of your car to write and read all your emails.
Comfortable, n’est pas?

Try wearing a fucking space suit while you do it.

I know, I’m real whiney for someone whose chances of survival just skyrocketed, and who spent the last few months complaining that I couldn’t talk to anyone.

I’m a complex guy

There is however an awesome bonus to communication: email!

NASA is now relaying emails to me. So far they’re from my ma – her first message was mostly the written equivalent of tears – and my sister – mostly bitching me out for taking ten years off her live and twenty years off Ma’s, which is her way of saying she loves me, she misses me, she wants me home – and Dugan and Morita and a few other friends.

They’re also sending collections of messages from people all over the world, from New York to Brazil to Australia to Hong Kong. All around the world there are people who know my name, who send my ma – by sending them to NASA actually but someone there is being awesome and sending them on – cards about how they’re praying me, people who’ve held services in their religious temples that I might get brought home…

All those people, all those people that don’t know me, don’t know my family…all those people doing what they can to bring me home. I don’t share the same religion as some, I don’t have the same skin colour as others, I probably have really different values to others still…they’re not all mathematicians, they’re not physicists or scientists or engineers, they can’t physically bring me home themselves, but they’re turning to the God(s) they believe in, powers that they believe to be stronger than any rocket, to bring me home.

I won’t even pretend this time – I fuckin’ bawled like a baby.

There are good people on that little green and blue speck out in the distance.

Lots of ‘em.

Hope my ma’s got a few around her

But it ain’t all roses and good times.

I’m still not being allowed contact with Valkyrie yet.

If Natasha were here she’d have figured out how to hack Valkyrie or tunnel in or whatever the fuck it is she does – she is weird and crazy smart and I have no idea how she does this shit every day because just hacking the rover was more than enough for me and I had fucking instructions on how to do that.

I don’t understand the reasoning.

My crew are my family. My family. I wanna tell ‘em I don’t blame ‘em. I wanna tell ‘em it’s not their fault. That it was a fucking accident. I wanna tell ‘em I miss ‘em. That I look at their pictures all the time, that I tell ‘em that I’m gonna get home.

I wanna tell ‘em I love them.

Each and every one of them.
Yeah, not just *him*.

I want them to know it wasn’t their fault. I want them to hear that from *me*. Not getting to speak with them, not getting to let them know how I feel, it’s fucking *killing* me.

But remember how I said I was a complex guy? Funny enough, five minutes after I said that, it’s still true - in a small way, a real fuckin’ *infinitesimal* way. I’m almost kinda, sorta, glad about not hearing from my crew.

Sick, right?

Don’t get me wrong, it’s about 99.999999% fucked off and 0.000001% okay with it.

If you ain’t asking why, then you got no curiosity. I’m hurt, it’s almost like you don’t care about me and my feelings.

Some reunions, they oughta be private.

Some reunions, they’re all pomp and circumstance and balloons in a school gym with people who pretend to remember each other, or pretend that the other person merely ‘teased’ them rather than relentlessly bullied the shit outta them.

Yeah, you know who you assholes are.

Sometimes a reunion is the size of a shipyard, the docks lined with crying and delighted loved ones waving banners and flags as the fleet comes back in, bands playing as tears fall as families are reunited once again.

This ain’t one of them reunions.

Some reunions need to be quiet. They need to be contained.

They need to be fucking *private*.

They don’t need to be fuckin’ chaperoned by the same fuckers that have lied to my crew for weeks.

They really don’t need to be watched by an entire planet.

I ain’t – *we* ain’t - some sorta zoo exhibit.

Not.

Happening.

Fury and Garner can get their rocks off some other way. ‘Sides, I don’t trust ‘em not to redact shit outta any comms we send.

Maybe I’m just too angry to trust them yet.

As ever, I just don’t fucking know.

In order to distract me from this lack of crew contact, NASA has been bombarding me with messages about my rescue and their plans for all my lovely ‘free’ time up here.

Yeah, that’s how they describe it. *Free time*, like I ain’t got nothing better to do than traipse around at their beck and call. Half of it ain’t even shit about the rescue, but ordering me to dig holes – done
that, never again – run tests on the shit pulled up – ha ha fucking ha – and take samples and run tests on myself – as if I don’t already. I get bombarded with daily questions I don’t wanna know the answer to. Like how much I’ve lost off my waist and thighs. How much overall weight I’ve lost. My body fat ratio. Some super invasive questions about bowel movements…

Lemme remind you that everything I type that ain’t to Doctor Cho is released into the public domain. Gotta love that doctor-patient confidentiality. But ‘cos it was JPL asking me about it, my shit is literally a matter of public record. Astronaut takes dump on Mars, stop the presses.

Fuck, it was probably some sorta front page news on some rag.

Sorry Ma.

They learned after that though. Kept all personal questions with my health strictly between me and Cho. Which is kinda ball-clenchingly awful anyway – she’s a friend. I don’t wanna be talking about pain when I shit with her.

To be honest, between worrying about mine being the shit heard around the world, the added work load and the annoyance at the added workload, the distraction plan is working pretty good for Houston.

Assholes.

For most of the last four months I’ve been able to set the pace of my work. I was, by and large, my own boss.

I kinda loved that.

If I was so isolated and alone, what the fuck do I mean by ‘most of the time’?

My body, where the fuck have you been?

But human frailty aside, I got to decide what I did, how fast, where, when, why…

You get it.

But now?

Now I get orders and I got a handful of people bossing me around and yelling at me.

Did not miss that.

I gotta present myself to the rover every two hours on the hour to get lectured by a buncha people that didn’t notice I was dead for weeks.

If I miss the uplink?

Houston, we have a meltdown.

I got distracted yesterday: I still got my plants to look after and the solar panels to clear and all the other shit I gotta do up here.

I missed my check-in.

When I finally got my ass into R2D2 and in front of the screens, fuck me, you’d think I’d died again.
JPL: Barnes, please respond with thoughts on MDV mods

JPL: Barnes?

JPL: Barnes!

JPL: No reports of external damage to Hab. Rover at base. No images of you outside. Report

JPL: JAMES BUCHANAN BARNES SO HELP ME

BARNES: Yo

JPL: Are you KIDDING me, Barnes?

BARNES: Stop yelling at me, you’re not my real dad.

JPL: You’re hilarious

BARNES: You’re acting like I have a curfew now

JPL: You DO. Every two hours, Barnes. You gotta be in the rover every two hours.

BARNES: What you gonna do? Take away my car? Ground me?

JPL: You’re a riot.

BARNES: Fuckin’ right.

BARNES: You want somethin’ cos I’m busy doin’ my homework.

JPL: Jackass

BARNES: Hey now, watch your mouth, I’m an impressionable kid.

BARNES: Sometimes I’m gonna get distracted, I’m gonna be a little late. You gotta chill.

I am nailing this subordinate thing.

Nailing it.

What did they want after all that?

As of yesterday, JPL thinks they’ve solved the weight issue, figuring out how to detach the heat shields, life support shit and empty fuel tanks. Nothin’ like a little safe spaceflight to make a guy feel invigorated and scared shitless while sitting in a rover. I stared out at the heap of wreckage that passes for an MDV here at Ares 3 for about twenty minutes trying to convince myself that lateral flight in one of those things, without safety equipment, wasn’t the stupidest thing I was ever going to do.

I didn’t succeed.

I get home, I’m finding whose idea this is and alternating smacking them in the face and kissing them for getting me home. Clearly it was not the brainchild of anyone who has actually had to endure being in an MDV.

It is a fuckin’ sad fact of my so-called life that this crazy-ass scheme is my best option for survival.

No really.

Think about that for a second. Retconning a landing – and that’s me bein’ real generous with the term – vehicle into an ascent one with only the tools we got here, loading up an extra person and crossing our legs so we don’t shit ourselves.

Combined IQ of about 1.3 trillion down there at NASA and the best they can come up with is some sorta Charlie and The Glass Elevator Hail Mary shit.

God have mercy on my ragged soul…
Flight is taking advantage of a seventh man for the Ares 4 mission and already working on my work schedule during the mission.

Gee guys, feeling the love. No such thing as a free lunch in NASA.

Fuck, I *barely* get a lunch at all.

Now she’s got access, Doctor Cho keeps asking about my arm and my health. If there was a way to USPS NASA my blood, piss, and any other assorted bodily fluids, she would have them. Ain’t there any such thing as confidential anymore? Even if the messages don’t get released live to the public, having half of NASA knowing about when and how to take a shit after four months up here with such a shitty – haha –diet, ain’t my idea of a good time.

Call me crazy.

Plus, I don’t trust some fucker won’t leak it to Fox News or somethin’.

Fuck that.

It ain’t that I got an issue with people knowing I fucked up my arm (and leg and eardrums and…) – that’s a lie and y’all know it – I just don’t want Ma reading about how much weight I’ve lost, or the way I had to kinda do surgery on myself, or explain about how I hurt my leg or how sometimes the world goes fuzzy at the edges and that most nights my arm hurts so deep in the bone it feel like it’s going to explode.

Don’t even get me fucking started on Garner wanting to do long-distance psych evals on me.

That shit *definitely* ain’t hitting the newsstands.

Ma would find a way to reach through an uplink and strangle me for making her worry, before moving into St Luke’s and then end up practically burn the place down from all the candles she’d be lighting, deafening God with all her prayers.

Not that there’s a chance in Hell she ain’t doing all that already anyway.

That ain’t shit on what Becca would do to me.

An angry email from Becca is as close to a Howler anyone outside of Potterverse is ever gonna get.

Yeah, Cap had the entire Potterverse on his drive, all the original movies and the Fantastic Beasts ones too. It gets dull up here. I gotta watch something. I mighta spent an hour or so yesterday discussing with my plants as to what House I am.

I’m thinking I’m a Hufflepuff and my plants didn’t disagree so...

The rest of my free time that isn’t taken up wondering over which Ilvermorny house I belong in is spent with Natasha’s laptop again.

No, it ain’t that I actually *did* find porn on it, after that book let me down. And the three I read after that. This is me being a real grown-up, as opposed to the sorta adult that still requires someone to watch him when using scissors.

There’s a reason I keep getting hurt and I’m thinking it’s ‘cause I ain’t got a keeper up here.

I need a method of communicating with Earth, that much NASA and I have already agreed upon, should my jerry-rigged decades-old probe crap out on me and I’m left without people to talk to – and
bitch about – again.

To that end, I’m learning Morse code.

I got plenty of rocks, and they got plenty of satellites, the lil pervs—hey, at least in the Hab I can dance like nobody’s watching. I can, should something go wrong with Pathfinder, spell out messages for them to photograph.

They’d probably get arrested for that, if I were on Earth…though I guess that’s the point.

Why Morse code? Why not just spell the messages out?

Because I’m just one man, fer cryin’ out loud! Remember how I had to go drive around to find enough rocks to fill the pouch on the saddlebags? You wanna find enough rocks to write out a message large enough for a satellite to read, you go right ahead. I’ll be sitting over here enjoying watching some other bastard make terrible decisions.

Making dots and dashes is gonna be faster and easier than trying to spell each word.

But that ain’t the question you should be asking. Nah, the real question is why does Romanoff have Morse code on her laptop? Has anyone even used it since about 1905?

Like I said, she’s weird.

Once the chemical reactions were completed, each sheet was sterilized and brought to a clean-room. A small section was removed and thoroughly tested, ensuring the sheet was viable.

Just as every sheet had before it, it passed and the sheet was cut into the required shape, the rough edges heat-sealed, folded over four times and then sealed again. When cool the whole sheet was tested again. One last check was made as to the measurements and the sheet was then approved to be packed and shipped.

[07:55]ROGERS: So what was the plan? Never tell us? Watch and see if he died and then break it to us when we landed?
[07:58]FURY: That was never going to be what happened.
[08:01]ROGERS: You can’t stop yourself from lying, can you?!
[08:05]FURY: I didn’t lie. But the mission didn’t end because Barnes was still on Mars.
[08:10]ROGERS: Which you didn’t feel obliged to share! Didn’t lie? Letting us believe he was dead for two months, isn’t lying? Convincing our friends and family not to mention it and editing our personal communications if they did, isn’t lying?
[08:14]FURY: I’m not obliged to share anything. But you’re wrong about me; I do share.
[08:18]ROGERS: Months later.
[08:23]ROGERS: He might die up there, Fury.
[08:27]FURY: Which you knowing about won’t change. You are a soldier, Rogers. You know
Up in the control booth, Stark, Rhodey and Bruce Banner stood with their noses practically pressed to the viewing pane. On the other side of the glass, and ten feet below them sat the modified remains of the fully functional 1/6 scale model MDV.

The MDV model was sting-mounted on the facility’s vertical support, a 39-inch
The high, 1.5-inch diameter post, made of Vascomax 350 stainless steel. The sting itself was mounted on a motorized roll coupler allowing for 360° continuous vehicle roll capability. The roll coupler was sat atop a custom 45° pitch offset adapter that was being re-purposed from the old SLS testing days.

The set up could be placed into one of two positions: 0° and 45° and with a 55° pitching motion range, the vertical post system allowed for testing at a total angle of attack range from -10° to +45° with the pitch adapter in the 0° offset position to +90 in the 45°. The vertical motion of the vertical strut allowed for the model to remain as much as feasible in the center of the test section.

Without its nose cone, heat shields, reverse thrusters and a handful of other parts, it looked naked even under the dark lights of the wind tunnel. A part of Bruce’s heart – the large part that had been responsible for designing no small percentage of the vessel – ached to see if so stripped down, as if it had been left in the bad part of town overnight.

Still, no way around it.

Rapping on the glass, Bruce caught the attention of the gaggle of engineers still fussing around the model, ensuring it was angled correctly and firmly upon its strut, looking from their point of elevation like worker bees attending to their queen. He reached out to depress the button to activate the microphone, the intercom in the tunnel clicking on.

“One minute to test.”

The quartet of engineers all turned to the window, all four giving him the thumbs up to proceed with the run before collecting all their things together and trooping one at a time towards the door directly beneath the control room, the last to leave hitting the automatic lock-seal that sounded a tone in the room above announcing the room to be clear.

With a glance at the digital countdown on the opposite wall, Bruce turned on the voice recorder by the computer to his left.

“Commencing stress test.” He frowned and removed his thumb from the button. “What number is this?” Bruce asked the room at large.

“Sixty seven,” answered one of the returning engineers, the young woman sliding gracefully into her seat in front of one of the many computers. “Sixty-freaking-seven.”

Beside him, Tony heard Rhodey heave a sigh as his own misted the glass in front of him.

Sixty-seven attempts and sixty-six failures. Twenty of those had failed to even survive the estimated forces of take-off. They were on their seventeenth model which wasn’t making the bean-counters all that thrilled. The first seven hadn’t been salvageable at all, the explosion of one of them requiring the wind tunnel be shut down for repairs for two weeks. The remains of the second sat in Bruce’s office, a heap of mangled metal that he kept in the corner, a constant presence to remind him that while he could go home at night, Bucky couldn’t and that if he couldn’t pull a win out of his ass, Barnes would never go home again.

“Commencing stress test number sixty-seven on modified Mars Descent Vehicle in 10-9-8-7-6-”

“Come on, you little fucker. Just stay in one piece,” Tony whispered. Silently, Rhodey sent up his own prayer.

“-3-2-1.”

The immense fan, each blade tens of feet high, at the head of the tunnel fired to life at the flick of the
switch, the blades slow at first but picked up speed swiftly until they were nothing but a blur.

Everyone in the control room not attached to a computer station hurried over to the viewing window, crowding behind the three Directors, watching the LED screen in the tunnel that recorded the wind speed tick ever higher with each passing second.

No scoreboard had ever been watched with such desperate hope before. Something far more important and precious than a bet was riding on what lit up on the board.

Even on the other side of the thick glass, everyone involved could hear the creak and groan of the model-MDV as it began to shake, the group turning as one of the bank of screens that displayed countless stats and figures from internal temperature to oscillation, from buffeting to strain, and on and on and on, the numbers scrolling up the screens faster than anyone could keep up with, all being recorded for later analysis.

Rhodey chose to watch the tunnel itself as the coloured plumes of smoke were sent down the tunnel from the diffusers, arching and dancing over the model, demonstrating with ease just how she wasn’t designed for what was being asked of her, the smoke eddying and pooling, rather than slipping gracefully over her sides, the MDV doing it’s very best ‘bug-on-a-windscreen’ impression.

The creaking only got louder, and Tony winced. The MDV was designed and built for things other than aerodynamics and lift-off capabilities. The HIAD compensated for the lack of one and the other had never been entertained as a possibility. It dropped. That’s what the MDV was designed for from her couches to her panels to her rudder controls.

A high-pitched screech of metal on metal rent the air as the laws of physics had their wicked way with the MDV, a body flap tearing loose from the strain of how the model was being buffeted, the thrusters shaking apart so hard they were practically vibrating.

“Shut it—”

The thunderous impact of one of the reaction control system pods ripping free and embedding itself in the rear wall some seventy feet behind the model interrupted Bruce and he had to shout to be heard.

“Shut it down!”

Banner turned to the analyst at his side.

“Report.”

“Sir…” The flashing red screen told the story – as did the chunk of metal sticking out of the far wall, but he wanted to hear it. Wanted to hear how far off the mark they still were.

“Report.”

“Complete loss.”

“How long this time?”

“Thirty-two seconds.”

Tony elbowed Rhodey. “How long do we need?”

“Longer than thirty-two seconds. That would barely get them to the necessary height.”
“Fuck.”

Rhodey barely noticed the pain as he punched the glass.

“Fuck.”

“We told him yesterday that we almost had this,” Tony muttered.

“What?!” Bruce and Rhodey whirled on the Ares 3 Director. “Everybody out,” Banner ordered to the assembled engineers, the crew scrambling to get to the door. Mount Banner didn’t erupt often, but when it did Vesuvius itself would be jealous.

“I told Fury we were close to figuring out the weight issue,” Tony admitted when the door had swung closed behind them.

Bruce jabbed a finger against the glass to the wind tunnel, pointing at the panels that littered the floor and the thruster that looked to be held on by a thread.

“Does that look ‘close’ to you, Stark?”

“What the Hell, Tony?” Rhodey asked.

“He needed to hear something good, okay?” Tony defended. “He needed some sort of fucking joy up there.”

“We haven’t even gotten the damn thing to pass the wind tunnel tests yet! Let alone liftoff transition testing!”

“I just-”

“You just needed to be the savio-”

“Okay, okay, how about everybody calm the fuck down for five seconds.” Rhodey stepped between the two men, recognising the fire that had come into Tony’s eyes at Bruce’s words, their old friend knowing just the right buttons to press and how to press them hard.

Even if he didn’t necessarily disagree with at least some of Bruce’s assessment.

“Let’s get everyone back in, and start going over the data.”

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**Log Entry: Sol 115**

No.

No fucking way.

You *have* to be kidding me.

Don’t get me wrong, it ain’t the work, as such. I’m used to work, I grew up with it – it was the only
way I was gonna be able to afford to go to university, and sure as fuck the best way to stay employed in a fucking competitive field. The drive to give my all was instilled in me practically from birth: my dad was a big fan of hard work.

Actually, that’s a lie. He wasn’t a fan of the work, per se, but about the dedication to it, about being proud of the work you’ve done, and he was of the opinion that in order to be proud of it all, you had to have worked yourself to the bone.

Of course, this is a man that practically worked himself to death, so…

But I remember him, before the illness, before he was doubled over and in constant pain. He used to say he could stand tall because he worked hard, because he knew that everything his family had was because he took pride in his work, that his clients appreciated it and took notice, that when someone took pride in their work, the world was theirs..

Guess this world is mine.

I work hard at Barnes Farm.

I take pride in the plants that are a sea of green beneath the lights, a stark and gorgeous contrast to the dead, rust-red of the dirt outside, a shock every time I come in from outside, to see such life thriving up here.

I’m proud of the work on R2D2. The rovers were never designed for the shit I put them through and I managed that on my own.

And I ain’t gonna lie, I’m real fucking proud of the fact I turned rocket fuel into water. It ain’t water into wine, but for a botanist, it was real fucking close, lemme tell ya.

Fuck of a lot more useful too.

But that was about as much chemistry as this loser really wanted to do. One and done. Proud of it and move on.

Life loves to kick me in the balls.

Remember how I said NASA could kiss my ass if they thought I was gonna be doing six people’s worth of experiments while I was marooned here?

Ha, ha, fucking, ha.

I fucked up.

I made the mistake of talking to the interfering botanists on the ground about the steps I’d gone through when I’d brought in the soil from outside, how I’d had to wash it, how that’d gone, what I’d used, how long it took and so the fuck on.

They got real excited about the soil samples and rock samples and want me running Barton’s tests for him and then some of Thor’s chemical analyses. They want me to repeat it all from scratch.

Not the whole 12 shitting tonnes. But still, enough. They want me to bring in a variety of samples from not only where I primarily dug, but a whole new bunch too from around the Hab, run tests on the stuff and then do the wash, lather, rinse, repeat, shit all over again, before running even more tests.
But the fun doesn’t stop there, oh no.

Then they want me to mix that up with the literal shit from Bucky’s Bucket, run more tests on the soil makeup immediately after mixing, and then compare all that to how my original supply of dirt is.

Because I ain’t got enough shit to do.

I hope they got some ‘Chemistry for Dummies’ books that they can email me. Other than checking for the perchlorates, I got no idea how to do 95% of the shit they want.

What’s the 5%?

Digging.

Joy to the fucking world.

But it ain’t all doom and gloom now ET can phone home - those meddling kids back on Earth have, in their infinite and grudging wisdom, admitted that I mighta done a decent job with my crops.

Whoop-de-fucking-doo, so glad to have your approval. They did, because they’re assholes, admit they’re not super sure how I managed it, calling into question my intelligence and of course, half of ‘em are taking credit for my having live potatoes in the first place, which is a crock, but it’s not like I give a shit what most of ‘em think anyway.

Scratch that, I don’t give a shit what any of them think. My plants are proof enough I earned my place up here.

Doctor Cho, in between bouts of peppering me with constant questions about my health, has also confirmed my maths is good in regards to calorie counts and that I’m gonna last to Sol 900.

Gee, thanks guys. Super thrilled that teacher is pleased with me. Do I get a sticker?

However, she did leave me with a stinger, which was hard to have confirmed. I knew it already, but having Helen reiterate it, and even paint the picture as being far more dire than I had expected…

Not a good uplink.

What am I bitchin’ about?

That I’ll survive to 900, but only most of me. I’m gonna be skin and bones and it ain’t gonna be pretty. We’re talking sores across my skin, tooth root, losing hair, severe loss of bone density only exacerbated by the gravity situation…fuck, I could even be having seizures by the time Ares 4 picks my skinny ass up.

Which is why I’m real glad NASA has also gotten less secretive about the plan to keep me alive in a healthy state long enough for Ares 4 to come do their dashing Prince Charming thing and sweep me off my feet.

Worryingly literally.

They were, before they knew about Barnes Farm, managing to push about half of the staff of JPL into an early grave, but now they can be more relaxed, so the probe that’s bringing me food, three comms systems and spare Water Reclaimer and Oxygenator is now no longer such a rush job and will take off next year, take it’s sweet time to get here, and then arrive 6 weeks or so before I run out of food.
I’m gonna be real fucking sick of potatoes by then.

Log Entry: SOL 115(2)

Well, well, well.

Whowouldathunkit?

Seems NASA has had some sorta U-turn on the whole ‘Bucky No Talkie To Valkyrie’ thing. I don’t know why, I don’t really care, but when I get the latest uplink, there is was in black and white, a message from Rhodey.

So far, the same head honchos that decided keeping my survival from my crew was a good idea, have, in their infinite fucking wisdom, deemed we’re not to have direct contact, so Valkyrie has to email them and they then forward it to me. Likely with a lot of redaction happening, but contact is fucking contact, and with the whole ‘doing six people’s job’ idiocy on my horizon, getting another five people to bitch to about it, is a good thing.

Plus, y’know, talking to my crew.

Nearly four months since I got to talk to ‘em and now, even with NASA likely black pen-ing half the shit we write each other, I’m gonna get to tell them myself that they ain’t to blame.

You know what that means to me?

Guess Garner thinks I’m gonna have a hissy fit or start cursing them out for abandoning me here or something. Start ranting about how a Barnes is for life, not just for Christmas. Maybe I should drive around Mars collecting all the rovers and Landers and start a Rescue Home For Abandoned Martians. I could film it. Barton would love it, reality TV addict that he is.

I’d have thought Garner was more intuitive than that, it’s his fuckin’ job to read people, and he’s spent two years getting to know me and what I’m like, but guess they’re all in a panic down there.

The other alternative is that the crew isn’t handling the news well, or they’re disconcerted at my Lazarus act. Maybe Rogers requested it.

I don’t fuckin’ know and it’s driving me crazy.

I was hoping that the first email to come through from the ship would be Rogers and I don’t know what to read into it that it isn’t.

Dear Bucky,

We drew straws as to who had to waste their time writing to you, and I lost. Sorry we left you behind, but, well, we didn’t wanna have to tell you this, but bro, your farts are pretty fucking noxious and we couldn’t cope with another six months of it. Recycled air and burritos, you know? Lemme grab a chair and I’ll tell you all about my hard time up here without my buddy - I’ve taken over your bunk in Valkyrie. You got my entertainment drive, so I got your bed. It’s kinda like having a duplex, and I always wanted one of them. All the space, none of the stairs, what’s not to love? Don’t worry though, I don’t take any ‘me’ time in there. That’d be weird. I’ve also had to take over your tasks, but it’s not like its real science, only growing shit and I’m a good ole fashioned farm boy, so it’s easy. Only city boys like you make such a big deal over growing a plant. You oughta hear the shit we get from Houston, going on about how brilliant you are for growing potatoes. Freakin’ pre-
schoolers can do that man. Fucking proud of you though, but don’t think I’m gonna say it again.

How’s Mars now the neighbourhood’s gone to shit with you moving in? We’re all looking forward
to seeing you get home, man. We’re gonna help any way we can. We’re gonna get you home. -
Barton.

I read it over three times, hoping each time that I’d simply missed any mention of Steve or how he
was. I don’t know if it was because Barton didn’t include it or because someone at NASA thought
any mentions of the other crew members by name would make me take a walk on the surface
without my suit on, I don’t know, but the entire message, Clint’s lame-ass attempts at teasing aside,
was pretty sterile.

Except that bit at the end.

Sounds stupid, seein’ as how I’ve mentioned how fucking smart everyone down at NASA is –
smart, but fucking emotionally constipated sometimes – but knowing my crew is now involved in
trying to get me home, makes me feel that much more confident in my chances of survival.

Chalk one up to trust.

I know my crew. I don’t know most of the guys on the ground.

It is what it is.

But talking to Valkyrie again, talking to Barton made it all so real, just as the notes from my ma and
Becca had, in a way that the messages from NASA still didn’t quite feel. Maybe because I’ve got
names for faces. It might not have been from who I really wanted to talk to, and not mention my
crew-mates other than extremely obliquely, but that email - I’m walking on fucking air.

It only took me a minute to compose my reply:

Dear Idiot,

Your naked ass so much as touches my bunk, Barton, and...well, you ain’t gonna like it, lemme tell
you that. Mars is fine now the trailer trash has gotten off it. Didn’t your mothers ever teach you to
pick up after yourselves? Your shit is all over my kingdom! And that’s before I even get to start on
what’s on your drive. Whatever it is that is wrong with you, is no small thing. The Hills? Decade old
episodes at that? Teen Mom? Can I request a psych eval on you from here? Hey, can you say hi to
Rogers for me? The whole crew but...can you tell him it’s not his fault? That I don’t blame him?
Can you do that for me, Clint? Thanks. – Barnes.

“Commencing stress test number sixty-nine on modified Mars Descent Vehicle in 10-9-8-7-6-”

At Isodyne Energy, in a sterile Clean Room the canvas sheet was carefully folded, vacuum-packed
and then placed into an argon-filled shipping container. A disinterested worker slapped a sticker on
the outer covering around the sheet – Ares 3: Hab Canvas; Sheet AL102. Stacked along the long
rear wall, Sheet AL102 waited as more and more boxes joined it, a stack becoming a heap
becoming a fortress until the wall was no longer visible. A week later, the eighty-six completed
components were packed into a larger container and shipped to a local airstrip, where it was loaded onto a charter plane and flown to Edwards Air Force Base in California. Upon arrival, the containers were brought to the JPL White Room for probe assembly. Over the course of the following five weeks, engineers assembled the Ares 3 Presupply 09 that contained AL 102 and the other Hab canvas packages.

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**Log Entry: Sol 116**

Barton grew up on a farm. I wonder if this is how he felt every time a crop matured. Then again, he was like ten when he left, so I doubt it.

My second harvest is coming in!

It took all fucking day. Sounds laughable, right? Seeing as how Barnes Farm ain’t exactly sprawling across half a county.

Well, fuck you.

I’m one man, alone, without the appropriate tools, no equipment, and literally dependent on this food so I gotta be careful with the plants. I also got a fuck-tonne of plants for the space I got, so hundreds of plants getting my individual attention…yeah, that takes a lot of time.

First thing this morning I hauled my ass out to R2D2, fired off an email that I wasn’t gonna be checking any uplinks for 24 hours and to ask everyone to get a sports bra with which to calm their tits so that they didn’t freak out when I didn’t report for duty or leave the Hab for the day.

I didn’t bother waiting for a reply.

Back in New Brooklyn I got my exoskeleton prepped – ounce of prevention, and all that shit – and, broiling nicely, got down to work. I’ve gotten real good at being all careful not to damage the delicate roots, and even though I desperately wanted to grab all the spuds I could, I exercised self-control and took only the largest.

The actual harvest portion only took me half the day.

Yeah, seven fuckin’ hours crawling around on my hands and knees digging around in the dirt. What I wouldn’t give for some hand cream.

What did I spend the rest of the day doing?

Earthing up the plants to encourage new potatoes to grow above the maturing ones, and digging new holes across the rolling acres that are plant-free, cutting up enough of the new crop to form seed potatoes to complete my farmyard.

My re-seeding of the plants went really well, and now I’ve got 400 gorgeous plants that are, thanks to the billions of dollars of life support equipment that keep me alive, growing like the proverbial weeds.

This time, I’m replanting them as seed. This is all 100% Barnes pantry produce! All natural, organic, Martian potatoes. Just like Ma used to make.
I’m a little giddy.

Or maybe that’s the pain in my lower back.

Hard to tell the difference sometimes.

I musta reheated the T1000 arm and chest pieces about twelve times at least, warming the packets up to maximum the moment they started to cool. I even spent my breaks in child’s pose, but my back is on fire like it hates my guts.

Probably does.

But it’s worth it. Fifteen hours later, if I crank my neck around a bit, I can just see my farm from my bunk. I mean, I won’t, but I could. I won’t for two reasons.

One – ow fucking ow. That’d hurt, a lot.

Two – I rigged up cameras and a feed to my tablet precisely so I didn’t have to put any effort into watching over the farm.

Nanny-cam at its finest.

I can lie here, with a spine plotting painful and swift revenge, and gaze lovingly at the endless expanse of green, safe in the knowledge that beneath the dirt, my life-sustaining potatoes are doing their thing.

I really wish I had a piece of straw to chew, some jeans and…what the fuck do I know about farms? I’m from New York!

Actually, that’s sort of a lie. I was born in Indiana, so Barton and I are on a par with the farm boy shhtick, but I left when I was younger than he was when he left the farm he was born at, and I don’t remember Indiana at all.

First smart-ass to say anything about how I’m a botanist but don’t know about farms…

To celebrate, I mighta eaten a real meal. To most people it probably resembled a snack more than anything, but to me it was a sickening feast and my stomach feels like it’s going to boost. Secret reason three as to why I’m not hanging sideways off my bunk to see the main room.

Speaking of eating them, I’ve been lying here mulling over the problem of storing the potatoes until I’m ready to nuke ‘em. It’s not like I’ve got a few chest freezers hanging around to dump ‘em all in, and I can’t exactly throw ‘em in a pile, they’ll go bad and I’m not losing potatoes to rot after I nearly died to bring them about.

So, I’ve come up with an approach that would work in very few locales on Earth. I’m guessing this ain’t how they do it down at McMurdo, but it’s gonna work for me!

I’m gonna throw ‘em out the airlock!

Because of the near-vacuum, most of the water will be sucked right out of ‘em and they’ll freeze solid, essentially becoming as tasty as all my other dehydrated food. Hmmm. Ma used to freeze potatoes all the time – they kinda go soft when they thaw, and trust me on this, you don’t wanna be freezing, thawing and freezing again because that shit tastes fuckin’ awful, but if I just bring in as many as I need each day, nuke the shit outta them and go crazy with the seasoning – thank Christ we got sent up here with enough salt and pepper packets to appease even the craziest of chefs – I’m sure
I’ll be able to choke down all those lovely calories and vitamins.

It’ll also basically make the food sterile - any bacteria that was stupid enough to take a joy ride on my precious taters will die screaming, which is good seeing as how they’re being grown in my own shit. I know I said it wasn’t a danger what with how it’s my own bacteria being reintroduced into my gut, but let’s not take any unnecessary chances, yeah?

What else happened today?

When I was finally done, and I could stand the idea of getting up to go outside, I dutifully trooped out to the rover to check for any uplinks. It was too late in the day – middle of the fucking night – for me to send any replies or update them on my harvest, but I could still read whatever they’d sent me.

Assuming it wasn’t the shithead botanists again. The desire to delete their messages without reading was real and strong. I didn’t but that don’t mean I didn’t want to.

I’m a petty shit, but you know that already.

Nailing the subordinate shit.

I might not have been sending any downlinks, but NASA was like a clingy mother, sending me multiple messages, throwing the whole ‘uplink every two thing’ right out the window. Seemed that every damn thought any person down there had, got sent up, from two sentence emails about the integrity of the battery modifications, to long-winded affairs from Senators that I personally abhorred before leaving Earth, my skin crawling as I read their congratulations.

I might not delete the botany messages, but believe me, the smarmy assholes that sent me those kinds of messages…totally deserved to get jettisoned. Can you imagine being such a shit that someone on another planet with limited contact with Earth, still doesn’t wanna know you exist?

But hidden among the shit, was the diamond.

Got an email from Rhodes again, answering a few of my politely worded requests.

_Barnes,_

_I now have the answers for some of your questions. Despite on occasion knowing just how you feel, I can’t just tell the ‘Bucky Barnes Apparently Can’t Be Trusted To Do Botany’ Squad to go fuck themselves. I know you’ve been relying on yourself for a long time up there, but you’ve got us now. Let us help. We do know what we’re doing._

_The New York Rangers are at the top of the Eastern Conference._

_The data transfer rate simply isn’t good enough for the size of something like a music file, even when compressed. As such, I cannot fulfil your request for more music ‘please God, anything but disco, please anything but that’ and so this is denied. Once in a lifetime Boogie Fever comes to us all. My advice is to just sit back and learn to enjoy it. Fighting it will only make it worse. Break out your inner Travolta and ‘Stay Alive’._

(I can just guarantee that the man thought that pun was hilarious. This tells you everything you need to know about James Rhodes. _Everything_. This is a man that is willingly best friends with Tony Stark. Let that sink in. He seems sane when you put him next to the moron, but lemme tell ya, don’t let the calm, serene, little face fool you. Rhodes is nuts.)

_On to serious business; General Ross is compiling a committee to review the ‘grievous and unforgiveable’ incident of Sol 6. When it’s complete, chances are they’re going to want to speak with_
You about what happened during the storm and what mistakes could have been avoided, and who made them. I’ll try and stall on you having to deal with them, but they’re not going to stop trying. - Rhodes.

Of course NASA is trying to figure out where to lay the blame. It wants to be able to point at someone and say ‘Nothing to do with us, it was their fault.’ Fucked if I’m gonna help with that. Before we left, I’d never had the ‘privilege’ of meeting Thunderbolt Ross, but I knew his reputation: ruthless, hard-headed, and utterly unable to see logic, sense, or reason. Once he had the bit between his teeth, he was gonna go after what he wanted to destroy and fuck anyone who got in the way.

Oh, and he’s had it out for NASA ever since his daughter married Banner.

How the hell a man like that fathered a kind, compassionate, and thoughtful woman like Betty, I’ll never know. I only met her a couple times, but she’s a real sweetheart. Must be all from her Ma.

I sat in the rover for half an hour trying to compose my reply.

That’s a lie.

I spent half an hour trying to calm the fuck down so I could write a coherent reply that wasn’t just ‘fuck Ross, fuck the committee, fuck the horse they rode in on’ because I didn’t think that was going to carry much weight in the whole ‘defending my crew, both on Valkyrie and on the ground’.

By ‘trying to calm down’ I mean I slowly got out of the cab, swung around, hauled ass into the main cabin, stripped off my suit, and screamed and jumped around and basically exhausted the rage outta me while my back spasmed, which ironically enough only fuelled the rage. Then I calmly pulled my suit back on, jumped out the airlock, situated myself behind the keyboard and oh-so-painfully slowly, pecked away at the keys as I compiled my mature, and adult reply.

Rhodes, you can tell the committee that they can have their witch hunt without me. I ain’t getting involved, just so they can fuck over my crew or you. When they inevitably, based on no evidence – because it doesn’t exist – decide to blame Rogers and throw him under the bus – for a fucking accident - be advised that I am loudly, publicly and repeatedly going to deny it and you might not want to test who the public will back – a large organisation, or the man who lived alone on Mars for months, if not years. The only communication this committee will get from me will be that it was an accident.

It was a fucking accident.
It was a fucking accident.
It was a fucking accident.
It was a fucking accident.
It was a fucking accident.
It was a fucking accident.
It was a fucking accident.
It was a fucking accident.

Do not fucking test me.

This committee bothers me for more information – seeing as how I’m super busy up here, regardless of how y’all seem to think I just sit up here on my ass twiddling my thumbs - then the only messages from me that anyone will receive, will be the same thing. I ain’t kidding.

Please inform the members of this committee, and I cannot emphasise this enough, that they can
form an orderly queue to fuck themselves with a cactus, or suck my dick. The choice is theirs. Please and thank you.

Yours Sincerely,
James Buchanan Barnes.

I think that got me sentiment across, yeah?

Yeah.

The email wasn’t gonna send, not at midnight, but I hit ‘send’ anyway.

Why?

Because R2D2 would keep trying to send the message until it went through. First thing in the morning, while I was enjoying a potato and a fistful of vitamin pills – who the fuck am I kidding, after today I’m gonna still be asleep - the message would be a welcome ‘good morning’ to whomever had the early shift.

Sorry dude.

Probe 703 was the seventh of the fourteen presupply probes launched daily over the space of two weeks during the Hohmann Transfer window and its 251 day journey to the surface of Mars went by without incident.

Aero-braking slowed it considerably and it endured the heat of entering atmosphere by dint of heat shields that detached once it was through the atmosphere. A parachute was deployed to slow it further and at 30m above the surface, the parachute was released and the balloons inflated. It fell onto the unforgiving terrain of Acidalia Planitia and bounced a few times before it rolled to a stop, almost perfectly on target, landing within a few hundred metres of the previous six probes.

The balloons deflated and the onboard computer radioed Earth to report a safe landing, to cheers in Houston and, later, Isodyne Energy, the engineers high-fiving each other over a job well done despite the time-crunch, restricted budget and ludicrous working conditions.

At Acidalia Planitia, Probe 703 waited.

Even with his hearing aid on the desk next to him, Clint heard the crash from the quarters across the hall, the sound of something expensive being thrown with extreme force against something designed not to break unless hit by a meteor.

He wondered what it had been this time.

He wondered if it helped.

Rogers had been holed up in his bunk since he’d come back from Natasha’s station after talking with Fury – nobody, not even Natasha having the guts to ask what it had involved - and for the last few hours things had been eerily quiet.
Clint guessed that was over with.

That first day after they’d gotten the news…Nobody had known what to do, all looking to Sam with his training and gift for lightening any mood and knowing just what to say.

He’d had nothing.

When Clint had met the trio at Steve’s bunk, their Commander had been borderline catatonic, unresponsive to questions and seemingly unknowing of where he was. Sam and Clint had stayed with him, the B52 injection waiting on the desk.

A couple of hours later it’d been needed.

From one second to the next, an awareness had snapped back into Steve’s eyes and Clint had known that look.

He’s lost his hearing to that look.

Quick as a snake, the syringe had been in his hand, the needle buried in Steve’s bicep as Clint verbally tried to reason with the Commander, Sam doing his best to restrain a man that was already immensely strong, but was further fuelled by grief and rage.

As soon as the sedative had taken effect, Sam had released his hold, gentle hand moving to stroke Steve’s hair instead, as the two men had manhandled Steve back onto the bunk.

The whole crew had alternated sitting with him as he slept.

None of them had known what to expect when he’d woken up.

Was Steve going to break down, scream, cry…none of them really knew. The Commander was buttoned down pretty hard when it came to his emotions but losing Barnes had been a blow. Finding he was alive…

At first, Steve had been eerily, unnaturally calm.

Robotic, even.

But the first signs were there.

He’d shrug off comfort, often even violently, walking away if someone tried to engage him in conversation not directly related to the everyday running of Valkyrie or their work.

He started standing further away from the rest of the crew. Then started taking meals back to his bunk rather than sitting with the crew in the Rec Room, before beginning to skip them entirely.

In the mornings when Clint got to his med bay, he began to find Steve already there, working over the heavy bag until sweat was dripping to the floor and the man could barely raise his arms. At night, the Commander would pass him in the hall, heading back to the exercise equipment when everyone else was heading to dinner.

The first equipment casualty had been Steve’s tablet, launched at the cupboard above the coffee machine with such force the screen had shattered. The second a small rock sample from Mars that Steve had attempted to obliterate into dust with his rock pick.

After that, Sam had tried talking to him, but while Steve had sat and allowed it, that wasn’t the same as listening. That night, Clint had been making his way back to his bunk to collect something while
the others were in the Rec Room, and he’d overheard what seemed like the Rolling Stones in their hey-day coming from Steve’s room. He’d waited in his own bunk until the Commander had left, and then peered into Steve’s bunk, privacy be damned.

The Stones could only imagine making that much of a wasteland, especially seeing as how most of the items in the room were designed not to break or were bolted to the floor.

Slipping out of his bunk, Clint looked over the meagre possessions he’d been cleared to bring aboard Valkyrie, and picked up the ext. HD that’d crapped out on him - luckily after Natasha had saved the data- his empty coffee mugs - 3 of them in fact which would explain the shortage in the kitchen - and the USB photo frame that cycled images of his friends, family and dog.

He took his small collection across the hall and peered into Steve’s room; the Commander had his back to him, standing in a maelstrom of bedding and clothes, his hands braced on what NASA would call a desk and any sane person would call a small shelf. It’d been swept clean of whatever it had held, which likely included Steve’s broken eReader, laptop and a small sketching pad from the items scattered on the floor.

Clint could see the pad had fallen open to a pen and ink study of Bucky’s face, full lips tilted up in a mischievous smirk, eyes holding a note of challenge, like he was daring the viewer to do something. Daring the viewer to kiss him.

All Clint wanted to do was close it up, cover it up, make the too-realistic eyes look away. Juggling his load, he stepped into the room and gently closed the book, setting it on the mattress, reaching for Steve’s pillow were it rested against the wall behind the door over the top.

"Yes?"

I got some other stuff for you."

"What?" Steve turned around, brow wrinkled in confusion as his eyes darted from the items in Clint’s hold and then up to his eyes, angling himself onto Clint’s right side with a shift of his weight.

"If it’d make you feel better." Clint held out what was in his arms as an offering. He didn’t know how to do this, didn’t know how to comfort someone and not make things worse. Didn’t know if his presence was help or hindrance: it was always what he’d found hardest as a hospital doctor. Garner would probably tell him that it was because of his uncertain childhood, when a hand was more likely to be raised to harm and not heal. Whatever it was, he was out to sea without a map.

But he had shit that could be thrown.

"I thought you’d be running out of stuff to throw and I know you wouldn't ever damage the ship—" He shrugged and mimed hurling one of the cups at the wall.

Clint blinked in confusion when Steve barked out a surprised laugh, his Commander wiping his palm through his hair and down his face. Looking down at the handful of items strewn across his floor, Steve blushed, embarrassed at his behaviour.

“Thanks, Barton. Keep your stuff.” Rogers nodded to the photo-frame in Clint’s hands, currently cycling through a picture of him and his foster parents, Clint’s mongrel Lucky in Barton’s arms. “Especially that.”

“But, uh, wash the cups and put them back in the kitchen.”
Clint toed at the blanket on the floor.

“I can help you-”

“I made the mess, Doc, I can clear it up.”

Clint stared at his friend for a second.

“You sure?”

“Yeah. Go wash up.”

“Yes, Sir!” A plastic coffee cup smacked him in the temple as he saluted, prompting the hoped for smile from Steve.

“And you’ll go to bed, right? Gonna need you to promise.” Clint didn’t bother trying to coerce a promise of ‘sleep’ out of Cap. He wasn’t that naïve.

Six month olds weren’t naïve enough to believe a Steve Rogers that’d promise to try to get some sleep.

As he walked out of room, Clint glanced back at the sketchpad peeking out from under the pillow. God he hoped that NASA really did have a plan to get Bucky home. He didn’t want to think about what would happen to Steve if they didn’t.

Log Entry: Sol 117

We are back to our regularly scheduled agony.

Even with the Terminator heated exoskeleton, everything feels like I spent the night sleeping on a bed of white hot fire pokers.

I’m a dramatic little shit, what do you want from me?

Part of it is my own fault. I could go down – okay, okay, crawl, slowly and painfully – to the Med Bay and throw back a Vicodin or thirty. So why haven’t I?

I gotta preserve that shit.

Things go to plan, I’m gonna have a whole lot more of these harvest day aches over the next four years and I can’t be popping narcotics all the time. I might need that shit for the next time I blow myself up and shred my leg open.

We all know I’m gonna do something stupid again. I’m probably fucking overdue for it.

Ain’t that an uplifting thought?

Nah, I decided today I was gonna tough it out, I was gonna man up.
I was gonna bitch like a baby.

But that was always the plan.

Not the bitching, although I ain’t ever gonna turn down the opportunity to complain. The lazing around. I had plans for today that basically consisted of no plans at all. I was only gonna move when I had to go play nice in a rover, and I was only gonna do that every 4 hours because I do not do well with curfews and it’s best NASA learns that.

Ma had to.

Actually, Ma never did. Ma endured my delinquent stage for a while and then the Wrath of Khan fell on me like you ain’t never seen.

But Rhodey ain’t Ma. He doesn’t scare me even from tens of millions of miles away.

Ma still does.

But until they wise up enough to tattle to her that I ain’t playing ball, I got no problem lying here and licking my wounds.

I had my tablet for TV goodness. I had some bottled water. I had a couple empty bottles for…well, you can guess. I had plans for lazing in bed.

It was a couple hours into this lazing when I’d rolled onto my side in an effort to appease whatever the fuck bone was trying to bore its way through my skin – I’m gonna guess hip but what the fuck do I know? – and ended up nose to nose with one of the water bottles.

It had actual water in it, don’t freak out. Wouldn’t have been by my pillow otherwise. I got kinks but I ain’t got kinks, y’know?

Well, you do now.

It was kinda soothing at first, watching the water in the bottle rock from side to side, the vibration of the gunfire from the speakers from whatever mindless shoot-em-up I was not-watching making the fluid slosh.

It was like my version of watching the waves on the beach I guess.

But it put me in mind of something, something that I just couldn’t figure out.

So I let my eyes cross and my mind grey out as I waited for my hindbrain to let the rest of my mind in on whatever knotty problem it was chewing on.

It took another hour.

I’m nothing if not the quickest of thinkers.

Water.

I should have more of it.

I know, I know. This shit again.

What do I mean?
I mean, I’m glad they’re sending me another Water Reclaimer – mine is acting weird.

I rolled – literally- out of bed, and dragged my aching carcass down to the main compartment, sparing a glance at my beautiful, beautiful plants, and dropped down in front of the Water Reclaimer with, I’m sure, a real accusatory glance.

Some bright spark – and I could fucking kiss them – had, for reasons known only to them, wisely put the main output screen on the WR only a couple feet off the ground, meaning I could read it from where I was slumped against its reassuring bulk.

From there I could also see my water butts. Y’know how when you were a kid, your parents would measure you against a wall or doorway and there were pen or pencil marks of your height ranging back to when you were about a year old?

Well, my parents did.

The water butts look like that.

On the outside of each container are sharpie lines of where I’ve been removing and adding water from each one. It was the work of a moment to estimate how much water was in the butts and even less time to bring up the relevant information on the WR.

It’s not being as efficient as it should be. It’s made to keep six of us hydrated. Six people will get through 18 litres of water a day, so NASA made it to be capable of processing 20L.

I leave ten litres in the WR tank and the rest is distributed among the containers on the far wall. Even taking into consideration water lost into the soil, the last couple days, the WR has barely been processing 10L per diem.

In case any of you failed maths, that’s less than 50% efficiency.

You suddenly stopped doing half your job, your boss would get on you pretty quick, so I’m eyeing the Water Reclaimer pretty hard at this point.

Am I generating 10L of water a day? No, thanks, I’m not a racehorse. Pretty certain if I was generating 10L of water a day, you’d need to contact Ripley’s Believe It Or Not.

Or a doctor.

It’s the crops. I purposely keep the Hab more humid than the Water Regulator was really designed for so that the ground stays moist and I don’t have to spend all day watering 400 potato plants. Because it’s humid, the Water Regulator is constantly having to draw the water out of the air. Of course I then just put it back there, so it’s been working really hard

I can’t believe I’m about to say this, given how I’ve been bitching about them, but I accidentally brought the NASA eggheads in on it.

I’m not that worried about it. The Hab is a closed structure – the water can’t go anywhere, and if needs be, I can rig up a way of collecting all the moisture that’s coating everything up here. Or really go whole hog on the insanity thing and just start licking the walls.

But I stupidly mentioned it in an email, and like the damn logs, I didn’t know how to unsend the message. Can you even do that? Unsend an email?

Be really fucking useful if you could.
Because they’re freaking out.

I ain’t kidding.

I haven’t encountered this sorta fuss since the time my girlfriend and I disappeared back in high-school. Or, her parents thought we’d disappeared and they then got my ma panicked, who woke up Becca, who in her eleven year old wisdom, wound up everybody even more.

What did Claire and I do?

Nothing.

Sweet fuck all.

We’d gone for a walk.

That’s it. A simple, freaking walk. But Claire had just changed her answer-message on her cell, one of those annoying, kinda retro things where you pay a buck for a recording. It was a guy’s voice, kinda sinister, but not saying anything bad.

It was a joke.

Claire’s parents though…well, let’s just say they didn’t really approve of me, and they were more than a little protective of Claire. They’d practically call 911 when she got a freaking splinter. Probably why she was so determinedly independent and strong-willed, pushing back against their well-intentioned smothering.

A couple of fifteen year-olds on a date that had shaken off the shackle of her chaperone-esque parents – fucking right we had our cellphones off. So when I didn’t drop her off at her – frankly ridiculously – curfew, and Claire not only didn’t answer her phone, but a man’s voice was on her message, Mr and Mrs Temple were three seconds away from calling the National Guard.

Instead they rang Ma.

Two hours later when we traipsed in through the door, lips sore, and - in my case anyway – pants tight, it was to three near hysterical adults and one over-tired and wound-up pre-teen who almost took me out at the knees when she saw me, she hugged me around the legs so hard.

Apparently, laughing was not the right response to Mrs Temple’s concerns.

To be clear, I didn’t laugh. I had caught sight of the rosary beads dangling from my mother’s fist and that’d been like a cold rush of water down my spine. Ma has a whole bunch of ‘em: heirlooms, gifts, plastic ones she’d gotten as a child from her schools.

This set was the one our neighbour had given her when dad had gotten sick. Miss Gibson had gone on a pilgrimage to Rome when the previous Pope had died, purchasing the beads the very hour white smoke had belched forth above the Vatican. The whole time dad was ill, Ma had carried those beads, around her wrist, in her hand, on her belt, around her neck…

When he died, she’d put them away, never touched them again.

Me forgetting to leave a note and turning my phone off, something I’d always promised never to do…I’d been devastated to do that to Ma, and spent hours trying to calm her and the Temple’s down.

Hours.
It had been the death knell in the end for my relationship with Claire. We’d limped on for a few more weeks, but between my guilt and desire to stay close to home, and her desire to pull away from hers and live the life of her choosing, we were never gonna work long-term.

If the Houston engineers don’t calm the fuck down, this is gonna be the end of our relationship too!

But you know what’s the most insulting thing about it? The worst fuckin’ thing about this?

They don’t seem to care so much about me dying of thirst, as they do their precious piece of equipment, but in my ever ongoing quest to grow as a person, I’m lettin’ that go for now. It’s kind of adorable really.

Why?

Because to them, equipment failure is doomsday. It’s the worst case scenario of worst case scenarios. They literally cannot imagine anything worse than a piece of equipment acting up. Given the option of ‘death or mild inconvenience through equipment malfunction’ they’re gonna choose death each and every time.

To me, it just means it’s fuckin’ Tuesday.

So I’m traipsing back and forth to the rover instead of doing what I’m meant to be doing – finishing dealing with my new crop, and lazing around on my ass. Gone are the days of the merely irritating six times a day to the rover for mildly insulting emails questioning my botanical prowess, now I’m out there every half hour to find new questions, to send the answers to the old questions, to beat my head against the door panel as they try to kill me with buzzword shit…

I miss the days when I could just deal with this shit by myself.

Especially seeing as how I’m 90% certain whatever is wrong with the thing isn’t going to blow up in my face. From my vantage point on my ass leaning against the WR, that oh-so-useful hindbrain of mine had had another wave of brilliance.

Okay, 90% isn’t 100% but that’s pretty fuckin’ good! That’d get you an A at school! That’s good!

So am I ‘implementing steps’ –taking shit apart - to ‘investigate and prove the hypothesis as to the concerning behaviour of the Water Reclaimer’s current lack of optimal, or even reasonable, yield – to figure out why it ain’t working properly – ‘and therefore avoid any form of catastrophic longevity’ – make sure the damn thing will last until my rescue.

Nope.

Chance would be a fine fucking thing.

I’m playing the ‘can I kill the NASA techs with my mind?’ game.

What are the rules?

Well, you stuff your aching body into a space suit for the millionth time, drag your ass across to the rover, and then sit in the driver’s seat – oh the fucking irony – and seethe.

In the last four scintillating hours, because they think they know best just ‘cos they designed the thing, we’ve found a lot of fuckin’ parts that are working just fine. I on the other hand am not working at optimum.
My back hurts, every joint in my fingers burn like fuck from all the digging and shit yesterday and they did not want to have to grip anything fiddly like a – get your fucking minds outta the gutter – screwdriver.

To make my mind as angry as my body, the more things we find that are okay, the more the NASA geeks seem to wring their hands and get worried.

Me?

I just get more pissed.

They think the whole thing is about to blow up – shows what they know. I am a master of explosions and this ain’t gonna be one – I think there’s just a fault in a tube somewhere. But of course will they just let me do me motherfuckin’ job and fix it?

That is literally my job and now it seems as though they don’t fucking trust me to do it. If the WR had acted up while the crew were here, I’d have taken the fucker apart with barely a peep to NASA.

Actually, I wouldn’t have said a damn thing until after. Steve would have squealed on me.

But either way, shit would have got done.

Red tape, man. It’ll kill you every single fuckin’ time. Mostly because I’m gonna hang someone with it.

I tell you, this ain’t how it’s going to go. I can’t be pulling this shit every time shit goes sideways. If I go to them with every little thing, it’ll be five days before they okay me to do what I wanted to do five days previous and that a week ago, I’da done without thinking about it.

This fuckin’ sucks.

Together Barton and Rogers opened Presupply probe 703. They’d practised this hundreds and hundreds of times until they could have erected the Hab in the sleep, and their moves were efficient as they assembled the Hab. Their bulky suits made it difficult to move and handle the items, but they got it open, having learned the best method with the contents of probes 503 and 603, removing the sheets of Hab canvas and laying them out in order on the ground, lining everything up until it resembled the illustrated instructions for an Ikea product.

The other portions of the Hab quickly followed, emptying two further presupply probes of their cargo. Their bulky gloves made some of the finer work – constructing the long support ribs and threading them through the relevant sleeves in the canvas, Barton swearing when one got snagged, unsure about forcing it through and potentially damaging the the canvas, but unable not to continue. The fight had taken up an hour of his time, an errant stitch narrowing the sleeve imperceptivity to the naked eye, but just enough to cause an issue with the support pole, his progress slow and steady, anathema to the man’s natural behaviour.

Once the canvas sheets and the ribs were properly attached, the ends were sealed with a seal-strip, not unlike self-sealing envelopes, ensuring that the separate sheets were air-tight along their connections.

It took several sols of work, the whole crew sleeping divided up between the MDV and both rovers,
each duo complaining that their work was undoubtedly the hardest: Clint and Steve arguing that it was them due to the pressure on them to assemble their home, along with the added concern that if they made a mistake they were going to be responsible for any harm that befell their crewmates. Thor and Bucky vehemently disagreed, stating their job was by far the most physically taxing, hours and hours of setting-up the solar array, most often with their arms above their heads, the pain extreme, especially considering their current sleeping conditions. The foursome however certainly all agreed that the pair with the least compelling case for worst job was Nat and Sam, the duo responsible for the set up of the four weather stations. Despite that, the pilot and computer expert still tried to make their case, repeatedly mentioning the digging they had to do to sink the stations deep enough into the ground, the fast-setting concrete-esque goop they used to keep them in place not at all forgiving and Sam had come dangerously close to cementing his own boot to the floor. That had garnered no sympathy whatsoever.

Once all the three airlocks were in place, and Rogers was happy with the construction, their new home away from home was inflated, and AL102 experienced pressure for the first time. After an hour’s wait, and there was no change in pressure and no signs of any leaks or tears, the setup of the Hab was deemed complete and successful. Barton and Rogers turned to where Thor and Barnes toiled at the solar cell array and gave them the thumbs up. Romanoff and Wilson, a 1km away from base in a rover setting up the second of the four weather stations radioed their congratulations along with their status.

Wilson had managed to stick his clipboard to a rock.

“Did that-”

“Not explode?”

“Yeah.”

“Yeah.”

Rhodey rested his head against the glass and stared down at the intact MDV model. It was only the first step, and there was no guarantee it’d hold up on a repeated test, but nothing had fallen off or flown into a wall.

Which was good, seeing as how this wind tunnel was 20 feet shorter than the other, now out of commission for at least three months. Fury had patched him in on the call with the President of American Airlines, the corporation from whom they were stealing time in the shorter tunnel. Seemingly even reminding the man that they were doing their best to rescue a good man off a desolate rock only got them so far. Rhodey had been a career soldier and he’d been surprised at the majority of the fiendishly inventive curses that revolved around tunnels and where nosecones might get rammed.

He’d made a mental note to try out more than a few.

Probably the next time Barnes or Tony did something stupid.

Which would be any moment now, he could just tell.

Still, Rhodey couldn’t stop the smile that pulled at his cheeks as he watched Bruce and his underlings
swarm the model to cram various probes and devices into a few uncomfortable-looking places. He didn’t know who he was happier for – himself, Barnes or Bruce.

The JPL director took ‘around the clock’ a little too literally. While his crew looked ragged, they did at least look like they’d managed to bribe a few hours sleep out from behind the filing cabinet or under the desk. They were, to a man, too-pale and had dark circles under their eyes but these were men and women with multiple PhDs each.

Sleep was for the weak.

But Bruce…

Bruce looked like dog shit that had sat around a day or two, been eaten by a skunk and then been shit out again.

Rhodey dearly never wanted to explain quite how he knew what that looked like.

Bruce wasn’t pale, but only because he’d instead taken on a washed-out jaundiced look. What was usually five o’clock shadow at best and a few days worth of scruff at worst had become the sort of shaggy, salt and pepper beard. Behind his glasses, what were dark smudges around the eyes of his subordinates were, on Bruce, glaring black eyes as though he’d gone ten rounds in an octagon.

Worst of all was the defeated slant to his shoulders and the guilt in his eyes.

But not now.

Now, Bruce’s shoulders were rolled back and relaxed, his head held high as he lowered the model to remove the internal sensors.

**Log Entry: Sol 118**

Remember yesterday when I was pissed with the whole hurry up and wait aspect of being in contact with NASA?

I remembered something today.

I don’t actually have to wait.

I’ll admit, yesterday I was pretty fucking scathing to the guys back home that are more interested in what’s most likely to drive me batshit insane, than they are in fixing the WR asap. For all I know, the hold-up is that each asshole down there has their own theory and they’re refusing to let their own go to support someone else’s.

Last night’s somewhat homicidal dreams made the scathing derision of the evening seem but a paltry drop in the ocean.

I used to have normal dreams.

Fuck, I used to have normal *fantasies*.

Your general, not at all PG-approved fun and games.
What has my life come to?

On balance, I’d rather the sex dreams, if I’m being given an option.

Not that anybody asks my opinion anymore.

Which had me thinking when I woke up this morning – if nobody gives a shit what I think, why am I living and dying on someone else’s opinion?

Someone else that ain’t here, ain’t never gonna be and whose life doesn’t depend on all this?

I’ve suspected from day one what the issue was.

So I got myself suited and booted, practically skipped over to R2D2 filled with glee at what I intended and I told ‘em that.

The whole conversation was littered with a tonne of technical language which is really boring, and I ain’t dyin’ with a boring autobiography, so I’m gonna paraphrase.

Me: I think it’s a blocked tube. There’s probably a clog. I’m going to take it apart and find it.

NASA: (After over a day of hand-wringing, desperate, deliberation) No. You don’t know what you’re doing, you’d die without us, just sit there like a good boy and wait until we pull your strings. Or you’ll fuck it up and you’ll die. Heed this warning.

So I did what any good mechanical engineer would do.

I strolled back into the Hab and took that fucker apart.

Felt good too.

I told you, I’m nailing this subordinate thing.

In my defence I did wait all of yesterday.

I was good for a whole day and sat on my hands and did fuck all when I coulda just fixed it without saying a word.

I’m just saying. I almost did shit by the book. I waited. I paced around. I slept. I checked the rover again. I did yoga.

I got bored.

I gave them over twenty-four hours to figure shit out and they didn’t. We all know sooner or later they’d have just told me to take the thing apart. I was cutting out the middleman. Or the eighteen middlemen.

Now they can work on something worthwhile.

Like a way to get me home that ain’t gonna kill me.

What are they going to do? Fire me?!

Felt even better when I was proven right.

In your face NASA geeks.
I know. I know that NASA is filled with smart people, some of which I will admit are smarter than me, but I’ve survived almost 4 months up here. Most of them alone. I’ve made water out of thin air. Literally. I’ve blown myself up all by myself. I’ve driven 1500km to find a decades old probe and hijacked it into working for me.

I ain’t fucking stupid, is what I’m getting at.

There are times I’m willing to defer to a room full of geeks just seconds away from wetting their pants in fear at what I’m facing up here. Like I said, I ain’t fucking stupid.

This just ain’t one of those times.

I was pretty pleased to be proven right, I can tell you that much. It was something I should have seen coming, my bad, but it was simple enough. The Water Regulator was designed to pull humidity out of the air – even without me keeping it purposefully high, my own exhaled breath would cause moisture to linger in the air – and to purify urine. But that’s not all that the water is encountering.

I brought half of the outside world in here.

What do I mean?

I’ve made soil.

Soil that the water is mixing with. Soil that contains no end of minerals that will dissolve into the water. That makes it mineral water and as the minerals travel through the Water Reclaimer they’d built up, forming a clog.

Think of it like your kettle – if you’ve got hard water and you don’t filter it before boiling it, the element scuzzes up, that shit flakes out into your water – which is fucking gross when you drink it – and it makes your kettle super inefficient because it takes the element longer to boil the water. The blockages in the tubes were like limescale.

Only more annoying and more potentially life-threatening, long term.

I don’t exactly got access to Scale Away up here, but it was a simple enough fix, removing the tube and clearing the blockage with a fancy – expensive – pipe cleaner, giving it and the surrounding tubes a good clean while I had the panel open. Then I reassembled the Water Reclaimer and restarted it. Cleaning the tubes will have bought me a little more time, but I’ll probably have to redo it in about 100 sols or so.

It’s really no problem. The clog cleared real easy and I got spares if I need ‘em. Now I know about the problem, I can anticipate it and periodically open the panels up to check on the status of the tubes.

Not worth worrying the geeks over.

Y’know what was strange?

It was fun.

No, I ain’t fucking with you.

This shit is why I was sent here. Keeping the Hab, and her contents, running perfectly. For the first time in a while I was actually doing what I was trained to do. Fuck trying to colonize Mars, fuck trying to create a Frankenrover, fuck hacking a probe older than me. This was straight up what I trained for. Shit I could do in my sleep and while I mighta bitched about it had this happened on Sol
18 had there been no storm, I really had a wail of a time clearing out the pipes.

That came out wrong.

So did that.

Shit.

Maybe it was just being an insubordinate little shit, who knows?

But I had a great morning.

So of course I acted in a real mature fashion and lorded it up over Earth.

It’s good to be the King.

Then I suited up, aglow with the feel of success, and trooped out to the rover again.

I’ll paraphrase again.


NASA: You wanker.

Me: (And this is verbatim) Why don't you all present yourselves to your doctors? You've got sticks up your asses-maybe with forceps they can be removed.

NASA: Wanker

NASA: And be advised, again, Doctor Barnes, these messages are public. Please modulate your language accordingly.

Me: Ready to comply.

NASA: Smartass

Me: Hi public!!! Who agrees with me?

JPL: You could have waited a couple hours for us to finish the simulations.

BARNES: I could have. I didn’t want to and I didn’t have to.

JPL: You going to fight us every step of the way, Barnes?

BARNES: Seems to be working for me so far.

JPL: You’re an ass.

BARNES: Tut, tut. Language.

JPL: Grow up

BARNES: Ready to comply.

JPL: Smartass.

Look at me, I’m multi-talented: I can fix Water Reclaimers and push buttons.

That, I can do.

Real buttons, metaphorical buttons, I can push ‘em all.

Regular button pusher.

My Ma always used to say I do something I was told not to out of sheer devilment.

Damn right.
I'll admit, that was probably pushing it, but while I'm thrilled to have contact, I'm not going to sit around and get bossed about by people millions of miles away when I know damn well what's wrong and how to fix it.

 Doesn’t mean it always works out for me though – the stubborn streak got me banned from Little League as a kid. Coach told me all I needed to do was get to first and we’d win. Nothing showy, nothing risky, just get to first.

I passed on the first two pitches, watching ‘em go by me. Two perfectly good pitches that’d gotten me to first and my guys home. Nah, why do that when I knew what I wanted? When I knew I could goad the jumped up little shit on the mound to pitch wild and then knock that sucker outta the park?

All right, it was a little out of sheer hatred of the bully on the mound, the kid that made my sister’s life fucking miserable on the way too and from school, but largely it was because I hated being told what to do when I’d made my case for doing things my way.

I was right. Pitcher threw from anger not from smarts, and the sound the ball made when it kissed the bat kept me warm all through the summer when I wasn’t allowed to play anymore. That sucker had wings and I barely needed to jog to get around the bases. I wanted to flip off the other team as I went around but Ma was in the stands, and while I was happy to piss-off Coach, but forget never playing again, if I flipped the bird at that age, I’d never have walked again.

Did flip my bat though, and that was almost as good.

Coach was all smiles when I got back to the dugout but the second everybody else had left, he chased me around the field like he wanted to kill me. Which was nothing on what Ma did when she got me home, but it was almost worth it. I missed baseball, but it left more time for being a nerd and my grades went from good to great.

I ain’t changed the much in the two decades since.

I’m sorry the guys are pissed – but not that much – but this is how it is. This is how it’s gonna be. Small shit like this, I’m gonna indulge my independent nature and just fix it.

They get my ma on the other end of this message pass-the-parcel we got going on, and maybe I’ll sing a different tune but otherwise, they gotta trust me to do my job.

I’m really good at my fucking job. I survived this long haven’t I? Besides, independence and initiative is what they searched and thoroughly tested us all for. They didn’t want me to take charge and get shit done, then they shouldn’t have selected me for this mission.

I’m a Barnes. We don’t sit around and ‘um and ah’ for days on end. We make a plan and then we implement it.

Barnes-es might also have slight issues with authority and don’t react well to being bossed around by people we don’t necessarily respect. Nobody in the rooms down there have earned my respect. Hell, there starting from a negative number by lying to my crew for months. Except maybe Rhodey, ‘cos I know he’s a good guy really, but he’s not doin’ himself any favours with lying to my crew.

I know what you’re thinking.

No, really. All the radiation up here, I’m fucking psychic now.

You’re thinking, ‘if you’ve got such a problem taking orders, you asshole, what the fuck are you
“I don’t want to ruin the mood, but a series of successful wind tunnel tests is just the beginning. The liftoff phase of flight is extremely challenging for CFD simulations because of the very low speed flow where viscous effects are strong and because of the high angles of attack that will be experienced by the vehicle during liftoff ranging from -90° to 90° angle of attack. At these high attitudes, the flow is massively separated on the leeward side of the vehicle, and is highly unsteady, with strong vortex shedding in the wake of the vehicle.”

Bruce looked up from his notes to a silent press room.

“You wanna run that by us again in English, pal?” One of the reporters asked.

“We’ve run some successful tests but it’s just the start,” Rhodey translated. “Space travel presents a lot of difficulties and challenges.”

The reporter that had asked Banner to explain shot him a look that very plainly asked ‘now why couldn’t you have just said that?’

“What?”

“Questions?”

After the Hab was inflated, each airlock was tested from the outside, running through several cycles of locking and unlocking to test that it wasn’t in danger of compromising the Hab’s integrity.

After the checks were completed, Airlock 1 and Airlock 2, those closest to the piles of equipment that needed to be moved, were used to allow the astronauts to start the near-insurmountable task of bringing it all inside. Airlock 1 underwent the greatest number of cycles as Wilson, Rogers, Romanoff, and Barton trooped in and out with barely any rest, but a lot of cursing out the two men still compiling the solar array, who were thus exempt.
It wasn’t long into AL102’s short live that it was first tested in a situation outside of the ordinary: a storm raging against the Hab. Subjected to forces that far exceeded the tested design, the sheet undulated violently along where it sealed with the airlock door’s heavy casing. The other sheets of canvas were attached to each other and could ripple as one large sheet, but AL102 had no such luxury – the airlock barely moved in the brutal winds, what shifting it was capable of was little more than rocking side to side, rather than warping with the material, leaving AL102 to take the brunt of the storm alone, constantly being ripped and pulled against the unmoving plastic of the airlock as the winds waxed and waned and changed directions.

The resin, long since cooled and set, began to warm from the friction of the plastic frame shifting and how the canvas rubbed and ran along itself. As the resin warmed, it began to give, stretching as the bond began to break down. The new, more giving environment allowed the carbon fibres of AL102 to separate.

AL102 began to stretch.

Not much. Barely noticeable to the human eye. Just a few millimetres. But the carbon fibres, usually a mere 500 microns apart became separated by a gap 8 times that.

The storm abated, and the one lone astronaut that remained within the Hab carried out his multiple tests upon his new home. But he noticed nothing wrong because the weakness in AL102 was now concealed behind the seal-strip.

Had it been but noticed, with the judicious application of a section of spare canvas as a patch on both the inside and outside of the airlock, along with plenty of resin, then that would have been the end of it.

Had the whole crew been able to evacuate that day, Airlock 1 no longer requiring use, it would never have caused a problem.

But it wasn’t to be.

Designed for a mission of only 31 Sols, AL102, like all things left behind, endured a mission time that far exceeded its design parameters. Sol after Sol after Sol, the lone astronaut went about his tasks. Airlock 1 was the closest to the rover he modified and to the solar array that he cleaned regularly and so it swiftly became habit that he use Airlock 1 more often than not, human nature – and mankind’s lean toward laziness - being what it was.

When the airlock pressurised it expanded ever so slightly and when it depressurised, it shrank ever so slightly. Every time the astronaut used Airlock 1, AL102 endured cycle after cycle of strain and relax, strain and relax.

Pulling…stretching…weakening…stressing…

“It wasn’t your fault you know,” Natasha stood in the doorway into the geology lab, arms crossed as she leaned against the wall with false casualness.

On the journey to Mars, the lab – along with Steve’s bunk – had been kept almost obsessively neat. In the case of Steve’s living-space, Nat suspected that was a habit born from having few possessions
as he’d grown up and so the ones he’d had were cherished and well kept. The army would have only further fostered the behaviour.

The lab, however, had been respected because of what it represented: the future. And no small quantity of taxpayer money. Every piece of equipment had gleamed, and Nat would not have been surprised if she were to learn that Steve used a set square to ensure each machine ran perfectly parallel to the edge of the benches. Before he’d turned out the lights each night, Rogers had ensured that all was where it should be.

Not so anymore.

Files were heaped upon the benches, a sweater lay abandoned in one corner, papers littered the floor, and the whole room looked as though it, like Steve, might just collapse in on itself.

Rogers didn’t turn to her, strong back curved over the work on his desk, but his hands stilled.

“I was given this mission. I was supposed to protect you all.”

“We’re not children, Steve. And you’re certainly not our parent no matter what those idiots used to say.” Jokes were something else that had fallen by the wayside.

“But I am your Commander. It was my job to bring you all home.”

“It was an accident,” she countered.

“I should have insisted we tie together.”

“So could I. So could Sam. So could Clint, the damn EVA master. So could anyone at NASA.”

“I’m the-”

“You protected the other four members of your crew.”

“And I left Bucky behind.” The crack in Steve’s voice, the self-loathing that dripped from every word, the guilt…it broke Natasha’s heart.

“It’s not your fault.” She’d say it again and again and again until he started to believe her. To believe Bucky. Along with Stark’s report, the crew had gotten copies – that she suspected were at least partially edited – of all the transmissions since communications had been established. They’d all seen for themselves that Bucky blamed nobody for what had happened.

“Yeah. Sure.”

“You’re a terrible liar.” Natasha stepped into the room, wishing there was a real door to close behind her, given them a semblance of privacy.

Steve turned bloodshot eyes towards her, eyelashes spiked from tears she suspected he refused to shed. In Steve’s decades of life, he’d long ago learned that love burned, that to care was to risk loss, loss was to grieve and to grieve was to accept. To accept was to move on. Never to feel that person’s touch again, never to hear their laugh, or watch them smile. Maybe it’d be better if he did, just stopped trying to hold back something that was going to be stronger than him every single time.

Crueler still, surely, was to learn that in this one instance, in this one situation, a prayer was answered…

After her own parents had died, how many nights had Natasha spent knealed beside her thin bed at
the orphanage? How many nights had prayers spilled from her lips, carried to a heaven she was no longer sure she believed in? A heaven that never answered her pleas to give her her parents back. She’d begged, and bargained and threatened. She’d promised to be such a good girl, to devote her life to helping others, to never have a harsh thought, to be the very model of every parent’s dream, if only her parents would come back.

Her prayers had been whipped away on the wind, never answered.

But Steve’s…

It was the very embodiment of being careful what one wished for.

Bucky had survived, the love of Steve’s life was alive.

Out of reach.

Alone.

Dying.

She stayed quiet, wanting to give her friend every opportunity to carry on, to let himself go, to rage or to weep. She wanted to hug him, hold him, let him break against her, but she didn’t know if he’d welcome it. He was such a strong and stoic man that drawing attention to his weakness might make it worse. She settled for resting against the desk mere inches from him.

“He loves you. One of the first things he wanted Earth to know, wanted you to know was that you weren’t to blame. You searched for him. You searched for him to the point you were willing to die to bring him home.”

“I should have tried harder. I should have done more, I should have-”

“Do you blame me or Thor?”

“What?” Steve looked horrified at the idea.

“Do you blame us? Was it our fault because we obeyed and went to the MAV instead of staying with you to search for him?”

“No!”

“Was it Barton’s fault? His readouts were wrong. According to his panels Bucky died the moment he was struck. There was no way for him to have survived after the decompression. Do you blame Barton?”

“No!” Steve’s face creased up in a frown as he rejected the very idea. “Why would you even ask me that?”

“Do you blame Sam? If he’d been able to think of something else to stabilize the MAV maybe you’d have had more time to find Bucky. Do you blame him?”

“No!”

“Then what makes you so special, Steve?”

Steve scoffed, shaking his head, the return of his innate defiance merely temporary as it bled away from him once more, his shoulders rounding as his head slumped back down against his chest.
It was unnatural.

“Nothing.” It was little more than a whisper. “I’m just a kid from Brooklyn.”

“Then why was it your fault alone?”

“Because-” He groped for words to describe the indescribable, the confusing, swirling weight in his chest, “-because he trusted me to keep him safe. Because he’d never have been there if it wasn’t for me. Because he was under my care. Because I should never have gotten into the MAV. Because-”

“Because you love him,” Natasha interjected softly. If Steve couldn’t be honest here, with just the two of them, he couldn’t be honest anywhere.

“Because you love him and you don’t think you’re ever going to get the chance to tell him that. Because as much as you care for each of us – and we know you do - as much as you’d grieve for us, you love him. And because of that you have to remember something about Bucky– there isn’t a damn thing in the Universe that can make that man do what he doesn’t want to. He’s a big boy, Steve. He might have followed were you led, but he chose to do that. Honour that. Honour that this was his choice. Honour that being on Mars was his decision and a risk he chose to take. Honour that loving you is giving him another reason to get home. Honour how he feels and stop blaming yourself for an accident. He doesn’t.”

As Steve fought against tears, Natasha curled an arm across his shoulders, tugging him in against her side and let him hide his face against her stomach.

**Log Entry: Sol 119**

I think I’m being punished.

You act like a bit of a brat for just five minutes and what the fuck do you get?

Wind.

Grow the fuck up, I don’t mean that kinda wind.

There was another storm last night.

I knew it was coming, the Southern weather station kicking up some readings just when I was heading to bed, but knowing about it didn’t make it any better.

Did give me the chance to go out and re-wrap my Christmas present though.

I know, I know, *Pathfinder* has spent decades up here but can I point out one thing? It fucking broke. I realise I spent the last few days bitching and complaining about having contact with Houston, but that’s kinda the luxury when you’ve got somethin’, right? Kinda like whinging about your country and how shitty as fuck it is, but that doesn’t mean you don’t love it.

It’s a prerogative. One I don’t wanna lose. So the moment the alarm went off – call me a coward, but now whenever the winds go over thirty miles an hour, I got an alarm that’ll sound – I swore my ass off and hauled on my suit.

All while trying to get my heartrate to slow down again.
I skipped out to the rover and fired off a quick note that a storm was coming, I was wrapping up my little miracle – stop sniggering – and wasn’t leaving the Hab until it was a millpond out on the surface.

Call me a coward all you like, but this flat ass is staying inside where it’s safe. For a given definition of the term. Safe as Habs, that’s me.

I didn’t bother waiting for a reply; it would have wasted thirty minutes that I didn’t wanna be spending gettin’ all restive behind the wheel, desperately cranking my head around to check for dust clouds and killer wind.

I still ain’t talking about the silent but deadly kind.

Scratch that, I kinda am.

I never bothered trying to winkle the tarps from underneath the Lander, so it didn’t take me all that long to get my Macy’s gift wrap on, all the while looking over my shoulder like I was gonna be able to see the spectre of doom trying to sneak up on me.

Not a cloud in the sky.

Still didn’t trust it. Mars is a sneaky fucker that is out to get me.

That ain’t paranoia.

I spent the rest of the evening with my beloved Florida girls, singing along to the theme song as loud as possible, and making myself a fort.

You think I’m too old, huh?

Fuck that shit, nobody is too old for a pillow fort.

The bunks run along the outer wall of the sleeping pod, with a narrow ‘window’ running along the length of where my bed was. It was meant to help acclimate the crew to real sunlight after being on the tin can that is Valkyrie, but when it’s storming and little pebbles and shit are smacking up against that window…

Don’t wanna be near it, I don’t care that the clear canvas shit has been tested through the roof and ain’t gonna break. I don’t wanna sleep right next to the window during a storm.

So I dragged my mattresses and blankets and pillows and shit into the exact middle of the sleeping compartment and with the judicious use of a couple of stools and a stack of files – I knew engineering would pay off – I made myself a pretty fine fort.

Screw the whole ‘a jug of wine, a loaf of bread, and thou beside me’ thing. Pillow fort, potato, and Golden Girls is the way forward outta any situation. If you can’t have popcorn, a baked potato with enough sodium to stop your heart is almost as good.

If I repeat that a lot to myself I might even begin to believe it.

I fell asleep sometime around halfway through season two, before the storm had really worked its panties into a bunch but it woke me in the middle of the night, heart racing, short of breath and I was out of my nest and half way across the Hab and in front of the panel with the weather station readouts before I was even aware I was moving.
This one is a baby in comparison the Sol 6 Incident, barely a Category 4 with winds only topping out at 70kph but it ain’t even the storms that scare me that much.

Okay, that’s a fucking lie and we all know it.

I’m gonna be try and be truthful here though, so gimme a minute alright?

The storm is only half the problem. Maybe three-quarters.

See, the thing is, I love storms. Fucking love ‘em. I used to lie awake and count the seconds between the lightning and thunder. I used to sneak out the apartment to dance around in the rain on the roof of the building. I loved sitting on the windowsill and watching water stream down the window. I loved being cozy in my bed and listening to the rain, safe in the knowledge I didn’t have anywhere to go and could just listen to it, warm and dry. Nothing better than being pressed up against someone you love, warm and together, listening to the storm rage outside while everything was so calm and peaceful in your bed. I even enjoyed blackouts and playing cards with Becca and Ma because the TV didn’t work.

I ain’t got that anymore.

I can’t listen to a storm and know I’m safe and protected inside. I got nobody to talk to and play cards with and tease and tell shitty ghost stories to while holding a candle below my chin.

I don’t relax when I hear the wind howl anymore. Now I just wanna vomit.

Something else Mars has taken from me.

Once I was able to calm down, and crawl back into the fort and drop the flap – otherwise known as one of Thor’s immense sweaters – to cocoon myself once more, lying staring at the blanket above me, a sudden, terrifying thought hit me.

Was the tarp going to be enough? The wrapping was meant more to protect Pathfinder during the drive back to New Brooklyn, not for storms. A tarp was little shelter from the wind. What if the winds grew strong enough to rip the straps apart? What if the straps caused damage to the Lander? What if the sand that’s being kicked up got forced further into her vulnerable electronics? What if I lose connection to Earth after only a few sweet days?

What if that was my one chance? The universe letting me have that one little hope before fuckin’ with me again?

I couldn’t calm down from that thought, and rolled back out of bed. Sleep wasn’t going to happen.

Logically I know Pathfinder has and did survive worse while it was operational and in the years since it went dark. If I was able to fix it by only providing power and heat, then nothing catastrophic happened to it, despite the hundreds of storms it would have weathered.

But that I couldn’t go check on it yet was fuckin’ with my head. I needed to find something to do.

I spent the next three hours obsessing over my plants, mixing more manure into the soil, investigating the health of every leaf and shoot. It filled my time, sure, but it didn’t stop me freakin’ the fuck out.

Some things even Betty White’s dulcet tones can’t cure.

Who knew?
I might as well have been playing tapes from Rosetta Stone for all I knew what was being said on screen. All I could hear were my own desperate, terrified thoughts.

What if another storm took away my one way of talking to Earth?

Like I said, storms and me? Not best pals.

I didn’t even get the chance to talk to Steve.

Nothing I can do about it now.

You know what’s a shocker?

Knowing I could do fuck all about it until the fucking storm passes didn’t help.

Patience ain’t always my thing.

Go figure.

Even if it didn’t take my mind off the problem, there was plenty to get done with my potatoes. There’s only 7 sols until the next harvest, and beyond knowing how I was going to preserve them – throwing them out the airlock to freeze- I wasn’t at all prepared. For a start I haven’t even got a hoe, which I’m going to have to make outta fuck knows what. I also need to construct some sort of outdoor shed – I can’t just pile ‘em up outside the airlock like a freaking woodpile or the next time there’s a storm, my potatoes will be spread out and buried like some bizarre Easter Egg hunt.

I mighta freakin’ ruled at those as a kid – ma always put ‘em in the weirdest places but I still found more than Becca ever did – but I don’t really wanna play the Mars version. I need those potatoes to live. The little chocolate ones ma hid were great, but I could, and did the rest of the year, live without ‘em.

I spent an hour eyeing up some of the larger containers, wondering if there was a way I could remove the bottoms of some of them to leave just the sides, stacking those atop one another using the resin and then reinforcing that with duct tape, and then gluing the newly formed rectangular tube onto an intact tub forming a sort of potato tower.

But Bucky, you cry, what if you need the containers.

Ex-fucking-actly.

What if I do need the containers? What then? They’re airtight and pressurised, something I don’t got a lot of up here. So I kinda wanna keep ’em in case of emergencies.

Yes, container emergencies exist, shut the fuck up.

But it kept me busy, and gave me something to do that wasn’t staring at the console screen and obsessively making lists of tasks to complete once I was free to meander around my kingdom once more.

What tasks?

Glad you asked.

Once the storm passed, I was going to have to head outside and clear off the solar cells, which’ll be a much bigger job than normal; the cells get a thin coating of the talcum powder like substance that passes for top-soil on this planet just day to day. But after a storm, I’m gonna have to dig ’em out to
get them uncovered. That’s gonna take most of the day. Then I gotta dig out my R2D2 and run diagnostics on it to ensure that it ain’t had something rattled loose. I’m not expecting anything – the rovers survived The Incident just fine, but better safe than sorry.

My new, boring, motto.

But first, we all know I gotta check on Pathfinder.

As soon as the winds died down, I was wriggling my way into my suit, and into Airlock 1 like I was jet-propelled.

Airlock 1 began the decompression process to 1/90\textsuperscript{th} of the Hab’s pressure while Bucky donned his helmet and waited impatiently to get outside. What he didn’t know was that above him, as the decompression compressed the airlock for the hundredth time and AL102 stretched for the last time, its viability was compromised.

On Sol 119 panel AL102 tore

On Sol 119 the Hab was breeched.

On Sol 119 that tear took advantage of how the carbon fibres had been abused over the countless compression cycles, took advantage of how the carbon fibres had been stretched apart and instead of preventing the tear from growing, in less than a tenth of a second, the tear went from 1mm to a metre the moment that the full pressure of the Hab rushed through the breech.

On Sol 119 the tear spread all around the airlock.

On Sol 119 the Hab underwent violent, explosive decompression.

On Sol 119 the airlock separated from the rest of the Hab.

On Sol 119 Airlock 1 was fired away from the Hab like a rocket.

On Sol 119 an unprepared Bucky Barnes was thrown into what had been the inner door with the force of the explosion, whole body slamming into the wall.

On Sol 119 Airlock 1 was propelled 40 metres across the surface before crashing back down, throwing its inhabitant against the opposite wall like a ragdoll.

On Sol 119 Bucky Barnes faceplate took the majority of the blow as his head smashed into the outer door, shattering into hundreds of tiny cubes. Inside the helmet, Bucky’s head was pinballed against the sides, knocking him senseless.

On Sol 119 the airlock tumbled a further 15 metres away from the Hab, rolling its inhabitant and his heavy kit like he was in a tumble dryer. The only thing protecting Bucky from further harm was the heavy padding of his EVA suit, but with the blows to his head, he was barely conscious by the time the airlock came to a stop.

On Sol 119 Bucky Barnes lay on his back, blood gushing from a cut to the side of his head as he stared up through the jagged hole where once his faceplate was.

On Sol 119 Bucky Barnes attempted to make sense of what had just happened over the space of three seconds.

On Sol 119 Bucky Barnes turned his head just enough to see the Hab. New Brooklyn was collapsed,
canvas flapping in the breeze, a slew of its contents spread across the surface between him and it, jettisoned out the compromised airlock just as he had been.

On Sol 119 Bucky Barnes became aware of a hissing sound, one that was not coming from his suit. Somewhere in Airlock 1 was a breech, a slow leak that was going to steal away what oxygen he had and potentially kill him.

On Sol 119 Bucky Barnes reached a trembling hand up and touched the ragged edges of what remained of his faceplate, his suit no use to him without it.

On Sol 119, Bucky Barnes punched that hand into the side of the airlock.

On Sol 119 Bucky Barnes had had enough.

“Are you fucking kidding me? **Fuck!**”
Audio Log: Sol 119

Suit Radio Recording:

Come to Mars, they said.

Learn new skills, they said.

Meet interesting new people, they said.

Die in *increasingly fucking ridiculous ways*.

You know what?

Fuck this!

Fuck this whole fuckin' planet!

Fuck the Hab!

Fuck this airlock!

I've fuckin' had *it*.

I've fuckin' had *e-fucking-nough*.

I'm done.

I'm done playing Robinson Fucking Crusoe on a planet that only wants to kill me. It can play this game with the next idiot stupid enough to fuckin' try.

I'm done.

I'm done playing a game that's more rigged than wrestling.

I ain't spending the last few minutes of my life letting Mars get the last laugh in watching me scramble to survive.

So I'm done.

Mars wins.

I'm gonna lie here, kicking the shit out of this motherfucking airlock until I'm too exhausted to move
and then it’s over.

Lights out.

No more pretending.

No more fighting.

No more trying to be optimistic.

I'm dying and that's that.

So why wait?

I love you, Steve.

Goddamn love of my life and I didn't get to tell you.

That's not your fault either.

Chapter End Notes

Is it hella short? Oh yeah.

Am I hella mean? Probably :(
Audio log: Sol 119 (2)
Suit Radio Recording

I don’t even know why I’m talking right now. I don’t know why I’m even leaving these messages, but I guess I’ve spent four fucking months talking to myself, I might as spend my last few minutes doing it. Which begs the question - why have I even bothered talking to myself for months like I’m gonna fuckin’ survive this shit? So my last rambling thoughts and gasps for air are on record?

So Ma can end up hearing it?

Why’d I do that to her? Now they know I survived, NASA’ll do whatever they have to do to get my recordings and my data. They’ll have to release ‘em to the press…it’ll be everywhere. Every injury, every hurt, every second of my death.

Ma and Becca will hear it.

Why would I do that?

Why *am* I doing it?

I get maudlin when I’m dying, who knew?

-

Audio log: Sol 119 (3)
Suit Radio Recording

Oh for fuck’s sake.

I’m not gonna give up, am I?

Why can’t I just lie down and die for once?

We all know why.

So these are my options.

Option A: my original plan, lie back and do nothing.

What happens in that plan?

I die.
I die and life goes on for everyone I love.

One day my sister might get married and I'm never gonna get to walk her down the aisle like I promised dad I would. Never get to see her so fucking radiant. Never see my ma trying so hard not to cry, before blubbering all over Aunt Joan. I won’t get to remind her to take her damn hat off at the reception so the rest of the ladies can take off theirs before they die of heat-stroke like they all did at Janey’s wedding.

I'm never gonna meet the guy.

This isn't me being a Neanderthal asshole policing my sister's love life. I swear. But Becca is fucking awesome, she’s my baby sister…she deserves a good guy, someone to make her happy. Someone who knows you can't hug her when she's upset ’cos she'll punch you in the crotch, someone who knows you gotta wait for her to come to you. Someone who knows she hates parsnips with a passion, can’t even be in the house when they’re cooking ‘cos the smell makes her sick, but that she can be persuaded to eat 'em if they're roasted in honey. Someone who’ll listen to her explain the ins and outs of those goddamn superhero movies she loves so much without getting bored or telling her to shut up.

Someone...someone that'll look after her, look after Ma.

And I'm never gonna know. I'm never gonna know if he's good enough for her. I'm never gonna hear my girls laugh again. Or yell at me for leaving the seat up.

Never gonna see my girls again.

That’s what’ll happen if I lie here.

Fuck that.

So, Option B: fight like a Barnes.

I’m tired. I hurt like fuck. I’m in a damaged suit stuck in a tin can that’s just destroyed my larger tin can. I see no fucking way to survive this and yet…

I just can’t lie down and die.

Should I be proud of that?

I kinda am.

You know, my ma worked real hard to teach me that tantrums did fuck all to help anything. Didn't even make feel better.

That's a lie. It felt pretty good. Guess that's been building for a while.

Especially wanting to tell Steve that.

Now I've got it out my system, I better figure out how to survive this latest shit-show.

Let's, uh, let's leave that embarrassing moment in the past, yeah? Got to figure out how to get a future, not ruminate on the immediate past.

Yeah, yeah, yeah, I know I said I give up but really? What’s the fun in that?

So, I gotta figure out what I got and how to survive with it.
What do I got?
An airlock with a slow leak.
A suit with a fucked helmet.
Limited amount of oxygen.
A fucked Hab.

Because I'd been planning to tend to the solar array and any issues with Pathfinder, I've also got my kit. Pretty certain it's responsible for the blood dripping down my face - think its siding with Mars and got some punches in while we rolled.

Gee.

Guess I'm doing great then.

I'm also queasy as fuck which means I’m probably rockin’ a concussion and moving makes me want to vomit up my entire digestive track which is something so new and different for me.

So that’s what I got in here with me.

What do I need to survive this latest shit-show?

A suit that doesn’t have a fucking great hole in it.

My spare suits are in the Hab. Some 50 metres away. In order to get to the Hab, I need a working suit. In order to get a working suit, I need to get to the Hab.

No, I won't get 50m without my helmet, don't ask fucking stupid questions.

Even if I could, New Brooklyn resembles a circus tent without the poles: I got nowhere to go. I'd die trying to find a suit which ain't gonna be where I left 'em because of the force of the decompression.

Explosive decompression ain’t just what happens to Morita after a spicy curry, who knew?

I could be wrong, but that seems pretty shit, far as my surviving this goes.

What else do I need?

Air.

No, I don't mean out there: I'm in what amounts to a leaking phone booth, from the hissing going on in here.

Or there's snakes in here.

Does anybody speak Parseltongue, motherfuckers?

I don't know if snakes would be better…at least be a different death to the constant threat of decompression.

You ever seen what happens to someone when they undergo decompression?

It ain’t pretty.
People think you explode. That your blood boils off. That you instantly freeze.

You don’t.

It’s so much worse than that.

Back in the ‘50s and ‘60s NASA, and other agencies, did some pretty thorough research into what does happen to you if you go for a stroll without your EVA suit or it’s severely compromised.

Without the helmet to maintain pressure within my suit, I’ll start to swell. Maybe even so much as twice my size. I won’t explode because skin and bones have enough strength to contain the higher pressure fluids within the body and prevent them from escaping outward. My blood won’t boil for a similar reason; your blood pressure is already relatively high compared to normal atmospheric conditions. Even if you go for a stroll in vacuum, blood vessels maintain a high enough pressure that the body's temperature remains below the boiling point of water and prevents blood from boiling.

But Bucky, you say, if all that shit doesn’t happen, what does?

You’ve got about 10-15 seconds before you pass out. But you’ve only got about 5-10 seconds to do something about the decompression.

You can survive for about 90 seconds – experiencing paralysis, convulsions and then paralysis again while unconscious - with minor effects, many of which are reversible if you’re recompressed, even up to only 0.25 of atmosphere.

I can’t.

If I’m gonna pass out in 10 seconds, I got nobody up here to drag my fuckin’ body back into the Hab in the next 80 seconds.

I don’t even have a fuckin’ Hab to get dragged into.

Dunno about you but I can’t even get to the Hab in 10 seconds, let alone fix it.

All that freaking joy will kick in around 10 seconds after exposure but quickly reverse after recompression, if only I stood any chance of getting anywhere. Once I drop to the ground, the effects become more severe and begin to accumulate.

A.K.A. I’ll be fucked.

Gas and water vapour will escape through my nose and mouth, rapidly cooling lips, tongue and nose. Back during the research, those exposed to vacuum reported they could feel the saliva on their tongue boiling off.

Sounds awesome…

Over the next 30 to 60 seconds, heart rate slows, blood pressure drops, and blood circulation stops.

After exposure of 2-4 minutes, you’re dead and even if I had a doctor, no amount of CPR or resuscitation shit is gonna do jack.

And the whole world will watch me kick it in HD.

I don’t want my ma seeing that.

But I’ve survived worse than this, right?
Right?!

I underwent decompression out on the surface, I passed out, no airlock as temporary protection. I got stabbed in the arm – fuck you very much, Mars – and I almost got poisoned on pure oxygen.

I survived that.

I can survive this.

Right?!

Optimism central, that's me.

No, not fucking really.

I am so screwed.

But I gotta think. I gotta think and now the airlock has come to a dead - ha fucking ha - stop, I don't need to stay in the suit to stay protected. It's bulky and space is at a premium. It ain't doing me any good anyway and if I'm dying, I'm fuckin' doing it comfortable.

I gotta think.

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**Audio Log: Sol 119 (4)**

*Suit Radio Recording*

Okay. Things aren't quite as shit as I thought.

I'm still fuckin' fucked, mind you.

I don't know what happened to New Brooklyn and it ain't exactly important right now, but I still got R2D2.

It ain't perfect but any port in a storm.

It's more than this.

Ain't you proud of me that I put the ‘Oh Shit Kit’ in there now?

Littlest Boy Scout, that's me.

Now how the fuck do I get to it?

I gotta fix my faceplate.

What I got to do that with?

I've got my breech kit, which saved my life so long ago.

Don't get so excited. Won't do shit for the faceplate - the cone is too small to fit over the hole in my helmet. It's designed for holes or breeches of less than 8cm.
Why?
You think you'd survive a tear in excess of 8cm long enough to slap a kit on it?
Did you just miss my lecture on what happens in decompression?
Fuckin’ pay attention.
Excuse my hollow laughter, but that might be in my immediate future.
So why mention it?
The resin, as I mighta demonstrated a few times now for some of you slower learners out there, is stronger than anything.
Shoulda attached the airlocks with it.
Plus the cone might be enough to plug the airlock leak, and that's my current priority.
Who doesn’t love a do or die to-do list?
It’s a small leak, I'm pretty sure of that; I'd be struggling to breathe otherwise. Or dead already.
With the faceplate destroyed my suit is managing the airlock and attempting to replace the air leaking out, but it can't do that forever - it'll run out of air.
To plug the leak, I gotta find the fucker.
I think it's near my feet and now I'm out of the suit I'm as supple and agile as Barton.
Alright, I can wriggle around.
I can see fuck all – the lights on my suit got smashed to shit and the airlock is fucked - but it’s down there. It's definitely louder now I’ve moved. And I know how to find it.
You know what I'm gonna say.
At least you should...
Arson boy rises again.
Fire is a useful tool, okay? It’s why we stole it from the Gods. Even if it's a really stupid idea to light a fire in an enclosed space with a tank of liquid O2 nearby.
What’s the worst that can happen?
That I’ll die?
I’d rather the fast burn than the landed fish act, swollen up like a marshmallow in a microwave.
Besides I don't actually want fire per se. I want the smoke. And contrary to popular belief, there can be smoke without fire.
But as per fucking usual NASA has surrounded me in non-flammable materials. All of it. From my suit to the shit in my kit, to my undersuit...all of it, even the threads are flame retardant.
The only thing in here that can burn is...me. No, I'm not setting myself on fire. I'm setting my hair on
fire. After I cut some off. It's certainly grown long enough to provide enough.

There's a sharp knife in my kit and it's the work of only a minute to hack off a couple locks. Bet I look gorgeous now. Big lump on one side of my head, bald spots on the other, blood everywhere, bruises...

Still the sexiest motherfucker on Mars.

I used to be prideful as a cat and now I’m getting close to having to raid Romanoff’s toiletries kit to shove my hair up in a ponytail. Gets much longer and it’s gonna be in a bun. And who needs gel when you’ve got pure grease.

First person to call me a hipster is getting stabbed with this big, sharp, knife.

Still the sexiest motherfucker on Mars.

Ya need more than fuel for fire though, as any of y’all that paid attention in chemistry would tell ya.

Now I need oxygen.

Which my suit has because something in my life ain’t totally shit. I’m gonna bump up the oxygen flow until I get about 40% O2 concentration in here.

Don’t worry about me runnin’ out of air: if this fails and I can’t fix the leak, a few extra hours of O2 ain’t gonna help me.

All that's left is a spark.

The EVA suit has electronics but I don’t wanna fuck with ‘em. If I can fathom a way around the faceplate, I'm gonna need everything working. Besides, it'd likely not create an arc anyway; like probes, these things run on super low voltages.

The airlock also has electronics but aw shucks, the power came from the Hab and I think after the divorce, the Hab kept it, along with everything else. Musta had one hell of a lawyer.

Damn those iron-clad pre-nups.

Plastic might not burn but like anyone who has played with a balloon can tell you, it can build a static charge. Once I do that, touching it to a piece of metal will make a spark.

Fun fact, but what I'm about to do is exactly what killed the Apollo 1 crew.

Fuck me.

Wish me luck.

“What the hell is happening up there?” Kate winced and moved the phone away from her ear. Seemed Doctor Rhodes wasn’t big on social niceties when shit was going down millions of miles away.
“I got nothing. The airlock is still where it was when it stopped rolling. It’s not moving, and so far Barnes hasn’t exited.” Her eyes were glued to the images that constantly reloaded down her screen, desperate for even a little movement, a shadow, a small white figure moving across the surface...

“The second something happens, I want you on the phone to me – fuck email.” He’d hung up before she could answer.

“What do you think I was going to do?” She mumbled to herself, fumbling with the dropping the phone onto its cradle without taking her eyes off the screen.


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**Audio Log: Sol 119 (5)**  
**Suit Radio Recording**

I forgot how much burning hair reeks. You’d a’ thought I’d remember given Becca's penchant for burning the shit outta her hair when she went out.

Hair related vanity is a genetic trait in Barnes’.

Ain't a great smell in cramped confines, lemme tell ya.

I was stupid –big shock right? - on my first try: I got a spark but I was being a selfish fucker that kept breathing so the smoke just wafted around on my exhale so was fucking useless.

Kinda like me.

So second time I held my breath and the EVA suit messed it up. It was breathing. Because of the helmet being off, the air it’s pumping is hissing out into the airlock and disturbing the air currents. Great, it’s keeping me alive but led to the same problem as my breathing.

So third time lucky. I shut off the suit and held my breath. I had to be quick - with the suit no longer fighting the leak, pressure was gonna drop fuckin' fast.

Remember the little PSA I just gave y’all about decompression? I don’t wanna actually demonstrate, but a small loss in pressure for a few seconds won’t actually kill me.

Third time unlucky.

In trying to be quick I moved my arms too fast which disturbed the air enough to render the smoke useless.

Fourth try I held my breath, turned off the suit and moved slowly when I got a spark. This is getting like that kids poem. Something about there was a spider that ate a fly. There was a cat that ate the spider that ate the fly...

The smoke practically arrowed its way to the floor and out the leak.
I got you now you fucker!

Of course by then I was gasping for air and groping for the tank to get air back into the airlock.

The fracture is tiny. I'm insulted that something so titchy is trying to kill me. Is this how little Mars thinks of me? I could easily seal it with the breech kit, but now I think about it, that's actually not that wise.

Why not?

Because I've got to fix the hole in my faceplate, and though I don't know how yet, the kit – most importantly the resin – is probably going to be important. And I can't do one then the other. Once I break the seal on the kit, the binary components of the resin mix and I've got 60 seconds before it hardens.

Given time, I'm sure I could come up with a plan for the fucking great hole in the front of my helmet but I don't have time. My tank is already down to 40% and I've got to deal with the fracture in the airlock.

I'm being fucking stupid.

I've got something in my kit that'll help, at least short term, and let's face it, that's all I got.

Duct tape.

The two most beautiful words in the English language. Back when I thought I might get off this fuckin’ rock I was this close to getting ‘em tattooed right next to my Mars number. It’s the greatest invention mankind has ever produced.

If you’re wondering what the worst is, right now its airlocks.

A good few layers of duct tape later and the pressure in the airlock was stable. It ain’t pretty, but the best engineering rarely is. Don’t know how long for but maybe long enough for me to figure out what the fuck sorta arts and crafts I’m gonna have to do.

I was never any good at that.

Ask my ma what I did to her sewing machine…

**Audio Log: Sol 119 (6)**

**Suit Radio Recording**

Fifteen of the most anti-climactic minutes of my life later – and yeah, I’m counting Sara Quinn in there – I’m still alive and the duct tape is holding.

Fuck yeah duct tape.

In time, when people walk around on the surface of Mars like a Sunday stroll, an archaeologist is gonna dig me up, and they’ll find I’m clinging to my rolls of duct tape. Won’t be able to pry it out my cold dead hands.

I might need this shit in the afterlife.
Wish it’d work on my faceplate.

It won’t, before you ask. It might seal a small fracture but maintaining an atmosphere’s worth of pressure across the gaping chasm of my missing faceplate? Duct tape is good – great even - but it ain’t gonna manage that.

How can I be so sure?

I mighta tested it.

Y’know, for science and shit.

I used about a third of the damn roll trying different configurations of concocting a visor, layering strips of the stuff on both the inside and outside of the helmet, winding the shit around the whole thing, and even just half an atmo of pressure blew it out.

All ain’t lost though.

I can spread the resin around the hole where the faceplate was, but what do I put in its place? It needs to be something capable of standing up to an atmosphere of pressure without tearing, breaking...

The only thing in this airlock that fits that description? My EVA suit. The same sheers that I used to play fashion designer with the Hab canvas are in my kit. They’d be able to cut through the suit no problem.

Of course, cutting into my suit will leave it with another hole, but I think I know how I can control the size and shape of that.

Remember how I joked that I would cut off my left arm if I needed something to eat?

Well now I’m going to.

No, not my arm-arm. My EVA suit arm. I’m not quite that fucked off yet that I’m gonna start hacking at body parts.

Gimme five minutes and that might change.

If I cut it off just at the elbow, and then cut it along the length, it’ll leave me with a long rectangle of material that is large enough to cover the faceplate of the helmet.

What about the massive hole that I’ll leave in order to fix another massive hole?

I’m gonna have to spread it out real thin, to have enough to go around the faceplate and seal the arm closed, but it’s doable. Strongest shit known to man, when it comes to adhesive. I just gotta get to the rover. At least for the time being.

But what am I going to do with my arm?

It’s gonna be a tight squeeze, but I can – just – fit it into the body of the suit pressed against my side, so long as I abandon the T1000 get-up, or figure out a way to stuff it down the legs or somethin’. Can proudly say I ain’t ever had to stuff my pants before, but I guess it’s one of those first time for everything deals. If I have to leave it behind, and I survive this, I can always come back for it. It ain’t gonna be pretty and it sure ain’t gonna be comfortable but what choice do I got?
Audio Log: Sol 119 (7)
Suit Radio Recording

I took a couple minutes to clear the remaining glass out of my helmet; I doubt it’ll pierce the suit material but why take the chance? It ain’t doing any good so might as well get rid of it. Besides, I dunno where you keep your eyes, but mine are on my face, and I’m not getting glass in ‘em. Before I could get all decoupage happy – yeah, I know fancy words – a rummage in my kit produced a small, pressurised container of IPA which I rubbed around the rim where the visor should be to remove any tacky residue from the duct-tape.

I’m a thorough fucker when I wanna be. I ain’t dying because the resin couldn’t form a perfect seal. Then I carried out my hack job on the EVA suit. Like the rest of my fashion creations it was pretty rough and ready but quick and easy. AKA, well within my abilities. Putting the helmet on my lap, I held it still with my knees and got the material ready – time was gonna be not on my side once I cracked the breech kit.

How new and fuckin’ different for my time here.

Soon as I opened the kit, I slicked my fingers through the resin and coated around the rim of the opening and then spread the rest on the opening to the hole in the arm. I pressed the material to the resin on the helmet and with some shuffling, stuffed my foot up on the wall of the airlock to hold the arm hole closed between boot and airlock while the resin dried, and used both hands to hold the material over the helmet. I pressed as hard as I could on both items for two minutes, just to make certain that the resin had set.

I made a mistake.

Not about the suit or the helmet or anything like that.

I glued my left foot to the arm of my suit.

Shut the fuck up. This has been a really bad fucking day and I will make it a worse day for you if you don’t stop laughing.

I’d been so fucking paranoid about sticking my hand to the helmet, seeing as I was being so fancy as to use my fingers as a brush, that I didn’t pay attention to how my boot was becoming one with my arm.

I’m flexible, lemme tell ya, but not so much that I can run to R2D2 with my left foot attached to my elbow.

With some acrobatics and a lot of swearing, I was able to reach across my body with my left hand – because I couldn’t get the angle with the right one - and snag a screwdriver out of my kit and slowly hack and chisel my way free without puncturing the shit outta my suit.

Problem with doing that with the hand that isn’t your dominant one?

You got no damn co-ordination with it and slip up a lot and puncture the shit outta yourself, so that was fun. I’m gonna be bleeding into my suit like there were piranhas in here.

Once I had separated boot from suit, and was happy with how the helmet looked and convinced the seal was going to hold, I connected the helmet onto the rest of the suit and let it take pressure. It held.
Using the computer on the arm, I upped the internal pressure to the equivalent of 1.4 atmospheres, more than I’d need.

The material over the faceplate bowed outwards but it didn’t tear or rip out.

Good sign.

But the computer also told me that it wasn’t airtight.

Of fucking course.

Did I have any extra resin to plug the gaps?

No.

Did I have the patience to find the gaps?

No.

Far more importantly I literally didn’t have the air.

Remember back on Sol 6 when the antennae punctured my suit and the suit tried to backfill with nitrogen to keep up pressure? That’s what it’d try to do in this situation.

While NASA only had us all scheduled for EVAs with a maximum time of 5 hours, the suit is designed to withstand 8 hours of continuous use because they’re real mensches that way and always have backup plans to everything except for what the fuck to do when your MAV leaves without you.

But enough about my bitterness.

Eight hours of use is about 250ml of liquid oxygen. To be safe, the tank carries 1L of liquid oxygen. To keep up pressure in the suit it carries 2L of liquid nitrogen.

My hasty fixes haven’t just lead to a tiny leak that’s barely noticeable.

Nah, my shitty, life-saving arts and crafts have been super inefficient. Just in the few minutes I was testing the integrity of my handicrafts, the airlock pressure has raised from 1 atmosphere to 1.2. Between me and the suit, we take up about half the damn airlock, which means the suit leaked enough to raise the pressure in the remaining 1 cubic metre by 0.2 atmospheres. You’re gonna have to trust me on the maths – as per usual. You guys don’t pull your weight at all – but that means that I’ve lost 285g of air. As a gram of air from the tanks is about equivalent to a cubic centimetre, I just lost 285ml of air.

So when I stepped into the Airlock O’Death, I had 3L of air because I keep all the tanks full to brimming at all fucking times, even when I’ve just EVA’d to the rover and back and barely touched the stuff. That’s 8 hours of use.

In a perfect world.

I ain’t in a perfect world. I ain’t even on a good one.

When my faceplate smashed, the tanks were open on my suit in preparation of stepping out to unwrap Pathfinder. While I was stunned and seeing triple and swearing up a storm, my suit was pissing out air into the airlock, which in turn was spewing it out into Mars atmo through the leak. To maintain pressure and then to test the suit, I had to allow that to continue, running through my air
store like it was goin’ outta fashion.

How dire was the situation?

Real.

Fucking.

Dire.

In the fifteen or so minutes that I’ve spent in my personal hellhole, I’ve gone through nearly eight hours of air.

How nearly?

I’ve got a stunning 410ml of oxygen and 738ml of nitrogen.

What all that means for those that can’t be bothered to work it out themselves, is that my suit is only going to be viable for four minutes.

Fuck me sideways.

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**Audio Log: Sol 119 (8)
Suit Radio Recording**

I can’t just go to the rover.

Hear me out.

What good is it gonna do me? No Water Reclaimer, no Oxygenator, only enough food for a day or so, no suit…yeah my home away from home isn’t looking so good to you now, is it, even with the Oh Shit Kit?

I used Wilson’s suit as a spare when I went to fetch *Pathfinder* but of course I took it back to the Hab to run full diagnostics.

I always meant to put it back in the rover but I got distracted by the whole ‘*I can talk to Earth*’ shit I’ve had going on.

Yeah, yeah, weak-ass excuse, I know.

Biting me in the ass now though, ain’t it?

The rover is a shelter but it’s short-term and it ain’t fixing shit.

So, I can’t go to the rover.

I also can’t stay here. The duct tape isn’t going to hold forever, but that ain’t the only issue.

Because of course it ain’t.

The cold is far more insidious. Remember how I said even with the heater the suits lose a lot of
warmth and we barely sweat in ‘em. The heater ain’t nearly strong enough to warm up the airlock. Which means that even without my air escaping, the airlock is cooling.

Fast. According to the sensor on the suit, it’s already twenty degrees cooler in here than it was when I got shot out the cannon. If I stay here too much longer it’s Bucksicle time.

So, I can’t stay.

If I wanna live, what do I do?

Fix the Hab.

Which I can’t do.

Not like this.

Fixing the Hab is going to take a lot more than four minutes. I know how, we all had to learn, and I can theoretically do it alone, but it’ll take days, and that’s without having to grope around inside a collapsed Hab that’s got shit all over the fuckin’ place because physics is a heartless bitch and all the force that fired the airlock out would have also been exerted into the Hab.

Equal and opposites reactions…

Fuck you, Newton.

It’s going to be worse than my sister’s bedroom. Don’t let anyone tell you that women are inherently neat and tidy. They ain’t.

Not to mention, in my current suit, I’d have to do it all with one arm practically stuck to my side and essentially blind.

When I got back from *Pathfinder* I carried Wilson’s suit through the airlock, into the Hab and placed it next to my bunk to remind me to tinker with it while I lazed in my castle and in case I needed a suit in a hurry – you’d not believe the number of fucking drills we did on getting into a suit under stress, half asleep, injured, freezing cold, all of the above… I can pull on a suit while halfway to frostbite, soaking wet and mostly asleep.

Phillips was a real bastard when it came to drills. Took perverse pride in making sure we were ready for life up here. Wonder why he never taught us what to do when left behind. Or in a leaky suit that’s held together with glue. Or in an airlock staring at a deflated Hab.

What an oversight.

Wilson’s suit likely isn’t by my bunk, but it gives me an idea of where to look and a much more confined area for it to have gotten thrown around in. The other suits were in their cubbies in the main compartment so fuck knows where they are now.

If the helmets are similarly smashed I am fucked. Sideways, upside down, inside out…

*Fucked.*

What I’ll do if they are, I don’t wanna think about.

Probably something like, ‘I’m just going outside and may be some time.’

I *could* fall into despair at the thought that this could be my last night alive, *or* I could figure out how
the fuck to get to the Hab in a leaking suit with a visor I can’t see through.

Here’s the biggest problem though – I can’t just run.

First, you can’t run in a space suit. You gotta do this shitty skipping. You wanna know what it looks like? Put on all your clothes at once, and get on a bouncy castle. Now skip across the fucker. It ain’t fast and it ain’t graceful. The Hab is at least 50 metres away, and with my demented skipping, I’m gonna manage 2 metres a second but that’s 25 seconds worth of time spent just getting to the Hab. I’m gonna need every second I got to find the fucking suit, I can’t waste almost an eighth of it in the Mars 50m dash.

Second, I gotta be careful about what the fuck I’m crushing. Anything that wasn’t nailed down in the Hab, is potentially spread across the surface, including the suits and any other shit I require to survive. I also can’t afford to twist my ankle like some sorta damsel in distress

I’ve got to find a way to get from here, to there, without leaving the airlock.

I can almost hear you asking me now, ‘how the fuck you gonna do that, idiot?’

By thinking like an idiot.

It’s back to the Barton Method of Mars Survival.

If I can’t go out there, then I gotta stay in here until the last second.

‘But Bucky, you’re already sitting on your ass in the airlock, how is that gonna save your life?’

I’m going to roll the airlock.

Why is this a stupid fucking idea, aside from how it’s gonna be the shittest roller coaster ever?

Physics.

Ever tried rolling a phone-booth 150 feet while inside it?

I had to carry out a few experiments first. This ain’t no hamster wheel that I can just press against the side and it moves. Nah, in order to make it roll I gotta hit the wall while in the air because – laws of physics being what they are - if I’m pressing against the opposite wall the two forces will cancel each other out and I’ll just stay still and frustrated.

So I gotta push off the wrong side and smack into the right side with as much force as possible.

While in something the size of a phone-booth.

Dunno about you, but I can barely turn around in those things, let alone jump around.

Thus began my experimental phase.

For some, an experimental phase means they dye their hair colours of the rainbow, or listen to weird music to find their sound, or explore their sexuality.

I experiment with how to slam my body into walls.

I like to be different, what can I say?

I tried pushing off one side and slamming into the other but the airlock only slid a little. Same when I
tried taking advantage of the reduced gravity on Mars by pushing up and kicking both feet into the wall with all the force I could muster.

Then I got it right.

This is going to hurt.

A lot.

I have to plant my feet on the ground near the wall and launch myself up and across to slam into the opposite wall, twisting in the air to tuck my head and neck down so that I hit the wall with my back. That was enough to make the airlock roll 1 side over.

The airlock is a metre wide. So I’ve got at least another 49 of these to go.

Fuck me but my back is gonna hurt.

“He’s alive, Sir.” If Rhodes could skip pleasantries, then so could she.

“You’re sure?”

Tucking the phone between ear and shoulder, Kate reached for the mouse, zooming in on the panorama she’d created from twenty stills. The pictures had been taken over the space of twenty minutes and at first she’d thought she’d been seeing things, the movement between each one too subtle to detect at first.

But she wasn’t called Littlest Hawkeye for nothing.

Mostly it was because her colleagues were really half-assing the nicknames recently, far too busy coping with the man on Mars to put any effort into anything other than their duties, but some of it was her eyesight.

And Barnes’ idea of a thank you email.

Asshole

“The airlock is rolling back to the Hab. It’s slow, but it’s definitely not because of a storm – that’s long gone. Don’t know about you, but that’s a big-ass clue that Mr Nine-Lives hasn’t kicked it up there.”

“Just the airlock rolling? No visual confirmation?”

“Negatory. But I’d bet my pathetic wages he’s alive in there, like a toy in a Kinder Egg.”

Kate could hear his relieved sigh down the line.

“Thank fuck.”

“Yeah. Yeah, they deserve to be kept in the loop.”
[18:43] CAPCOM: Valkyrie, be advised; Hab has undergone violent decompression. Barnes was in airlock at time. All we know is, he is alive.

[18:53] VALKYRIE: WHAT THE FUCK HAPPENED, FLIGHT?

[19:05] CAPCOM: At this time, you know what we know. Rhodes and Fury wanted you told. When we know more, you will.

[19:21] VALKYRIE: He can be taught. Don’t think Rogers would forgive it a second time. Confirm Barnes is alive.


[19:48] VALKYRIE: Look forward to it. I better go tell the Commander.

[20:01] CAPCOM: Don’t envy you that task, Romanoff.


Audio Log: Sol 120

Suit Radio Recording

Fuck me, my back hurts.

The walls of the airlock had all the softness and comfort of a brick wall hit at speed.

I actually ended up smashing my back into the airlock wall closer to 500 times.

Not that I counted or nothing. Not after 154 anyway.

Why?

Because I fuckin’ enjoyed it so much, why the fuck do you think?

Because the delicate and refined airlock-sliding procedure only actually worked 10% of the time.

Let’s see you do it better.

It also hurt a fucking lot more than I anticipated, and I anticipated that it’d hurt a lot.

It took all night because I had to take breaks to lie down, rest, stretch, duct tape my tool kit to the side so it stopped banging around, piss myself off enough to want to slam my bruised body into the wall another hundred times.

All good clean fun.

Luckily, I got a lot of anger to draw on.

Worked a pretty good amount of it out during my tumbleweed impression.
Even with all that time and effort, I’m still ten metres away from the Hab.

Not because I’m fucking lazy, but because, as I’ve mentioned before, there’s a tonne of shit out there and this airlock isn’t designed to roll over it. 10m away is just going to have to be good enough. It’s saved me 20 seconds of viable suit time so it was worth it.

Hold your breath for 20 seconds and then run on the spot as hard as you can, see how long that is.

Longer than you thought, right?

Difference between life and fucking death, my friend.

Remind me of that tomorrow – assuming I live that long – because I’m barely going to be able to move and I’m going to want to be reminded that it was for a good cause.

I’ve spent a day in here now. It was late morning when the storm ended and I was going to go outside, and now its late morning again. Which means the Hab has been without heat, oxygen or power for over twenty-four hours.

That’s not good on so many levels.

Not just because my balls have attempted to take up residence in my abdomen.

Soon as I stopped the ‘roll to the goal’ manoeuvre, I shimmied my battered body into my suit, it’s pitiful warmth like the Sahara in comparison to the chill of the airlock, my fingers and toes burning from the heat but it was oh so welcome.

Pity I could do fuck all about the hunger pains.

Not to mention I need to piss like a racehorse.

Why have I been crossing my legs like a prim debutante?

Well gee, I dunno. Maybe because I got nothing to piss into in here, and I don’t know about you but I got no desire to turn my hamster wheel into a golden shower washing machine.

Call me vanilla all you like.

So here’s the plan:

Using the manual controls I’m going to equalise the airlock and then skip like a crazed schoolkid into the Hab. Find a suit, any god-damn fucking suit that ain’t Nat’s, grab it and haul ass to the rover.

In under four minutes.

Let’s go do something stupid.

Er…

Let’s go do something ill-advised.

Log Entry: So 120
So.

That didn't go to plan.

But I am alive. I'm not a ghost typing this. You think I got nothin’ fucking better to do with my dead ass than to type up one last log?

Fuck that.

I didn’t cease Sisyphus-ing in time not to bulldoze some shit – it was dark, and it ain’t like I got much in the way of windows, or a steering wheel – but other than tripping on somethin’ when I shot out that airlock like I was possessed, I wasn’t exactly stopping to see what it was.

I got time for that fun and games later.

Especially in the weakass pre-dawn light.

Why didn’t I wait until it was brighter?

Did I not mention the duct tape holding the airlock together, the lack of air and the needing to piss?

Actually, scratch the needing to piss.

You’ve heard of dine and dashing. The new craze is slash and skip.

What?! It ain’t a hamster wheel anymore, and it sure as shit ain’t an airlock, so I might as well be comfortable on my skip to death.

Don’t sit there and judge me – you run for your life on a full bladder.

Assholes.

Am I rambling?

Fucking sue me. I’ve been shot out of a cannon and likely have concussion from the way my head was pinballing around inside my helmet and gettin’ a love tap from my kit. I’ve been awake for more than a day. I’ve thrown myself as hard as I can into a wall over 500 times.

My kit weighs like 30kg by the way. Try taking that to the face and then being expected to think your way outta death.

The take home message of all this rambly shit – is rambling a tiredness thing or a concussion thing? - is that I’m tired. I’m really fucking tired. I’m tired of being here. I’m tired of being blown up or almost killed on a weekly basis. I’m tired of stress and worry being 90% of my diet. I’m tired of a life without coffee. I’m tired of a life without the ones I love.

I’m tired.

But I know you’re all just dyin’ to hear the latest gossip here in Laguna Mars.

Like how I ain’t a corpse out on the surface.

My survival was some real high-jinks and tomfoolery. Freaking *Mars Funniest Home Videos* type shit.

As I span that wheel I was real glad I’d emptied my bladder.
Which only left cracking the seal on my home away from home and launching myself into the void.

My plan hit its next flaw when I tried to get the door open.

I missed most of what happened to the airlock after taking a toolkit to the face, but it must have rolled end over end at one point in its flight o’ fancy, warping the frame.

Because shit ain’t fucked enough.

Remember those 20 seconds I saved myself?

Wasted ‘em on wrenching that fucking door open.

Which my back just loved, thanks for asking.

I bound out onto the surface with vim, vigour, and vitality.

Or, more accurately, I sucked in what was possibly my last breath and jumped.

Wha’dya know, I survived.

I can tell ya, I made three year old girls look amateurs as I skipped my way to the Hab. I had to evade a veritable assault course of shit that got blown out the hole with me and that wasn’t easy, lemme tell you.

The shitty lighting added a real pleasing element to proceedings. Y’know, what with the whole ‘I’m wearing fabric over my face instead of glass.’ I could see more than you’d think, but not a lot more.

How could I see anything?

Wearing a space suit finally has advantages.

Beyond the whole being able to go outside when not on Earth, and surviving getting jettisoned in an airlock.

When you’re in an EVA suit, you have to move your whole fucking body when you want to look at things, there is no turning at the neck. NASA decided that was a big ole waste of everyone’s time and effort and so we all wear cameras on our suits – one on your dominant arm and one on your helmet. The images that the camera picks up can then, with the jab of a button or two, be projected onto the inside of the faceplate. The suit material wasn’t a nice shiny piece of glass, but it was good enough to get shit done.

The closer I got to the Hab, the shittier my home looked, even on suit-cam.

Now that she wasn’t being supported by either the ribbing or the pressure of the air within, the Hab canvas was draped over whatever the fuck inside hadn’t decided to go have a looksee of the outside world for shits and giggles.

A fuck ton of shit had decided to check out what life on the surface would entail. Mostly that it would make me have to hop, skip, and fuckin’ cartwheel over and around most it, wincing every time that I misjudged and landed on something I hoped wasn’t vital to my continued survival.

Graceful as a gazelle, that’s me.

I resented every single fucking thing between me and the Hab. Not just because I’m the poor asshole that’s going to have to retrieve it all when – if – I can get New Brooklyn up and running
again like some sorta intergalactic dumpster diver, but because every thing I had to jump over or around slowed me down and I was real conscious of the seconds ticking away.

Speaking of, I managed something kinda sensible – I know, I’m proud of me too, my time in the airlock changed me. As I leapt free from my prison, I began to count.

1 fucked astro.
2 fucked astro.
3 fucked astro.
4 fucked astro.
5 fucked astro.
6 fucked astro.

Six seconds from airlock to the gaping maw of the tear in the Hab. Six seconds to cross roughly ten metres.

Why did I do this?

I got a finite amount of time to go rummaging through this garage sale and I gotta book it back to the rover before gasping for breath and slowly suffocating.

R2D2 is a little over 100 metres away so we’re looking at about 65 seconds at best. Probably a little longer as hopefully I’m gonna be weighed down with suit on the way.

Let’s call it 75 seconds to be safe.

We all know how I love to be safe.

So I’ve got less than three minutes to wriggle into a deflated circus tent with no lights, no true vision, a leaking suit and one arm, trawl through the landfill that is inside and retrieve a suit.

Wishing I studied archaeology.

The easiest way to get into the Hab was through the big hole in the side – why wait to cycle through an airlock when there’s a real convenient door right there with no line, no waiting, nothing?

I knew the hole was gonna be big but fuck me, it’s even bigger than I’d had as my worst estimate and it’s gonna take a lot of time and effort to fix.

If I even can fix it.

It wasn’t until I had to lift the flapping canvas up and out of my way that the real flaw in my otherwise perfect plan was revealed – not only did I only have one arm to work with because the left arm is pressed against my side in the suit, but the now-empty arm is flapping about and getting caught on the canvas that I has having to lift out of my way.

I was right on the money about the state of New Brooklyn though. You wouldn’t have thought that a Hab with over a thousand square feet complete with high ceiling and internal farm could feel more cramped than my first shoebox of an apartment back in Old Brooklyn.

But hey, I love new experiences.
NASA wasn’t fuckin’ around with the lights on my suit, and they picked up every horrifying inch of
destruction. Everything is everywhere. Bunks and tables had been ripped metres away from where
they should have been – and those fuckers are bolted down - contents of cupboards were
everywhere, dirt and potato plants covered everything and it was all being pressed down by the Hab
canvas, which ain’t light.

I wasn’t halfway across the before the low oxygen alarm began to bleat, imploring me to be fucking
sensible for once and head to the rover.

As if.

I had to practically crawl over to where my bunk had been the night before last and for the first time
in over 26 hours something was going right for me. Wilson’s suit was still where I left it.

Which was when my luck returned to its regularly scheduled shit-show.

It was stuck under a worktable that was stuck under the weight of the Hab canvas. With both arms it
would have been a struggle for me to move the table, but with only one and starting to get panicked
that I was running out of time, I didn’t stand a chance.

Tasting diesel fuel and something like charcoaled meat– a disgusting combination, y’all can agree - I
started to choke, air an increasingly rare commodity as, according to the blaring going on, the suit
was rapidly losing integrity, my rough-and-ready alterations more rough than ready.

So I did the only thing I could think of. I grabbed the patch kit and detached the helmet, dropped one
inside the other and stuck it under my arm after only dropping it once, and rode the suffocation wave
to the new flap entrance to the Hab, trying my hardest not to flip the fuck out.

Mind over matter and all that shit.

Nobody ever tells you how hard that shit is.

But I’m a pro at this point.

Ever wonder why people say ‘dead panic’?

‘Cos that shit is fatal.

The faster my heart pounded, the worse the oxygen deprivation became and the hotter and harder the
burning agony in my chest became.

I didn’t enjoy suffocating the first time, I ain’t looking to get my ticket punched again.

Always die in a new matter, that’s my motto.

Slow breaths.

Fast feet.

Less haste, more speed.

Wanna know something else?

Blind panic?

That’s a thing, too.
Y’get blinkered. The adrenaline rush narrows your field of vision. Tunnel vision is real, y’all. Fucking dinosaurs could have been running alongside me as I skipped through debris that once was my home and I wouldn’t have seen ‘em.

All I could see was the life-saving bulk of the rover.

All I needed was to get another 25 metres and climb inside.

23 metres.

Higher reasoning reigned and I got my breathing under control enough that I was no longer gasping like a politician trying to answer a question only to realise they could no longer lie.

20 metres.

My heartbeat pounded in my ears.

18 metres.

My lungs felt like they were collapsing, reduced to the size of quarters, and what air I could pull into them felt like molasses.

15 metres.

The oxygen withdrawal made itself known as my legs trembled and seemed to weight a hundred pounds each.

10 metres.

Grey spots appeared in my vision.

8 metres.

The helmet under my arm began to slip, and my instinctive reaction to try and grasp it with my left arm, still trapped in my suit, threw my balance off and I stumbled to one knee.
7 metres.

Sharp pains in my ears and down the side of my neck were agonising as the suit began to lose pressure.

5 metres.

It became increasingly painful to blink, the moisture on my eyeballs evaporating.

2 metres.

With my last reserves of strength, I lunged for the airlock release button.
Chapter Summary

Bucky has a deflated Hab, a busted suit, and is living in a rover. Can he fix his latest predicament?

Log Entry: Sol 121

One potato, two potato, three potato, four.

Five potato, six potato, Buck is fucking sore.

I slept pretty well last night, given the circumstances – it’s amazing what exhaustion can do. Exhaustion and a 20mg injection of morphine sulphate.

’Oh Shit Kit’, I salute you. If it wasn’t for your lack of a spare suit, I’d kiss ya.

Ah fuck it, pucker up you canvas seducer, you and your drugs and food are getting one tongue filled smooch. After over a day without food or water – my piss was the color of iced tea when I defiled the airlock with it - and some serious physical activity, the meatballs stashed at the bottom of the bag were barely chewed as I stuffed as many as I could in my mouth while waiting for the morphine to kick in.

Kinda shocked I didn’t choke on the damn balls falling asleep mid-swallow.

Wonder how many history books will take that sentence outta context. Have at, future schoolkids, make of it what you will. I have a massive deficit of fucks for distribution right now.

How many fucks do I give, you ask? Well, it’s about equal to the number of live potato plants I have.

After finishing the meal off for breakfast – morning breath and meatballs is a surprisingly okay combo when you’ve got no choice and got bigger problems to deal with - I used the internal camera to take a look at the damage I did to myself during my time in Cirque Du Mars.

Bad.

Very bad.

Worse than I’d expected.

My forehead and the right side of my face was purple and black, swollen thanks to the kisses it got from my toolkit. With some delicate – and fucking excruciating – twisting around, I was able to check out my back and shoulders.

Looked like raw meat that’s oxidised.

Attractive, y’know.

Standing out from the sickening bruises were the welts that crisscrossed my skin, marks from the
ribbing of the airlock walls, flecks of dried blood spattered across my shoulder-blades where the skin had swollen to the point of splitting.

I’m a guy that’s real comfortable with camouflague, literal and figurative, but I don’t think this purple/black motif is gonna catch on.

It ain’t pretty.

Don’t think the arnica in the Med Bay is gonna do shit.

Speaking of which, guess who is back to shitting in a box?

I did not miss that. Especially as the stench of the Porta-Potty had dissipated since the Great Pathfinder Pursuit, aided ably by the cycling of the airlock.

Beggars might not be choosers, but we can be bitches.

Under other circumstances the guy on the console screen with his pale face and bruised body, his too-wide eyes and artistically-distressed spacesuit might be kinda funny.

And of you laughing, you’re sick.

Used and abused, that’s me.

You’d think I’d be used to that by now.

At some point the tide is gonna turn, right?

Right?!

No, I’m fuckin’ asking.

The tide really has to turn.

It feels like I’m living a fucking TV show. Y’know how every Big Bad has to be bigger and badder with each season, the stakes higher and shit? I got dozens of seasons of this shit on Clint’s drive, I know of what I speak.

That’s my life right now.

Every shit thing that happens to me just keeps getting exponentially worse.

Think getting skewered by a glorified cable TV antennae was bad?

Blow yourself up making water.

Think setting the Hab on fire was fucked up?

Blow the Hab up.

At this rate, New Brooklyn is gonna suddenly plummet into some sinkhole because the universe is real happy to twist itself inside out to fuck me over, and it’ll turn out Mars is actually hollow.

But until then, I’m revelling in the sweet, comforting stench of R2D2. I stumbled out of the airlock, collapsed onto the floor and sucked in lungful after lungful of stale, cold air and rejoiced.

After over a day in something the size of a phone-booth, I’m really appreciating the roominess. After
I stumbled outta the airlock yesterday, I fell to my knees as I wrestled off the helmet, sucking in lungful after lungful of stale, cold air and rejoiced.

Air had never tasted so good.

I don’t know how long I lay there, starfished out and staring at the roof while I panted and waited for the spots in front of my eyes to fuck off back to where they came from.

But like I told ya, I’m a multi-tasker – I can pay off my oxygen debt, and ruminate on a little problem that I realised while I’d be skipping around like it was goin’ outta fashion.

Not the suit. Not the Hab. Not getting everything fixed.

Nah.

My other problem.

NASA.

There’s no way that all the little geeks back home failed to see the explosive decompression, and even if they did miss the main event, they’ve had over 24 hours to notice the way the Hab is flapping in the breeze. Which means they’re probably freaking out. Even having seen me hamster-ball my way closer to the Hab.

Except, even with R2D2’s upgrades, I can’t phone home to apologise for missing curfew and staying out all night.

No, it ain’t because Pathfinder is wrapped up like a Christmas gift.

The Hab is without power. The Hab powers Pathfinder and without the power I’m yelling into space again and hoping that NASA is gonna hear me.

Oooh, they are really gonna be freakin’ out that I can’t talk to ‘em.

But one of my fears from the storm has been a little abated. While I was skipping past, I was able to note that Pathfinder is right where I left it and seemed unbothered by the storm, and by New Brooklyn really living up to its New York roots and spewing garbage at it. The contents of the Hab didn’t get close enough to the Lander to have hurt it so with luck, when I’m able to get power back online, the Lander will fire back up and a lot of people in various rooms in Houston and Pasadena will stop pissing their tighty whities and sweating buckets.

And with my nifty leak-free helmet, I’m can get to setting home sweet home to rights, and call my helicopter parents. The helmets are interchangeable so any helmet will fit any suit, and with me no longer losing pressure from there, I can turn my attention to the suit. That’ll give me a hell of a lot more time to go back into the Hab and get Wilson’s suit. Or Steve’s. Or anyone’s that isn’t held down by a freakin’ table.

Then back to the rover, quick change into a working suit and then fix the Hab.

I’ve got a busy few days ahead of me.

Using the resin from Wilson’s patch kit, I spent some of this morning cutting most of the remains of the useless suit arm away, and resealing the hole more securely, and getting stoned off the fumes. Sure, I’ll still have to ram my arm into the body of the suit but I won’t be losing pressure or have the arm wafting around getting caught on shit.
Besides, it’ll only be for as long as I need to grab a suit and then this whole thing can go for dusters. With the leaks sealed, I’ll have at least thirty minutes to poke and prod around in the Dumpster-previously-known-as-the-Hab and haul a suit back to the rover before a quick change and return to the battlefield.

I can now also make use of the rover’s EVA tank refill, which I couldn’t do yesterday with my sieve-like suit. It’s a just-in-case backup that NASA decided we might need and I could kiss the guy that decided we needed it. Remember how I said these suits were good for about a 4-5 hour EVA? We were always expected to come back with excess and it be no problem. They ain’t designed for overnighters or long trips but in case we got caught in a dust storm or had an issue, the rover has refill hoses on the exterior to top us up.

But it’s slow, and with my suit pissing air so fast yesterday, it wasn’t gonna fill faster than it escaped so, ya know, pointless. With my modified suit holding perfectly, the slow refill time ain’t a problem. While the tanks topped up I looked over my kingdom.

Space pirates.

That’s what it looks like.

Like marauders came in and picked over all my shit and deemed it worthless but just left it where they threw it.

First off, half this shit is super important to keeping me alive, and secondly, it’s super fuckin’ expensive! How dare they deem it all useless? I’m offended on the behalf of the NASA engineers that built this shit. That the likes of Mal and Co wouldn’t even deem it worth trading for some protein bricks is offensive.

My first plan when I get into New Brooklyn is to get a suit – I can’t fuck around with getting the Hab back up with one arm.

With the tank filled – consider yourself lucky you ain’t getting Clint’s constant joke about filling a tank for less than seventy bucks – I didn’t head into the Hab straight away. I’ve learned to be a little more cautious. I spent a little time outside first, keeping close to the rover, just in case something in the suit gave, so I could haul ass back to my little haven.

I collected together a bunch of the shit outside and made various heaps of it all, including one of all the potatoes that had been strewn about as if they weren’t my life savers, my efforts hampered by a brisk wind from the south that was strong enough to whip up the surface dust enough to be irritating, the particles swirling around my feet and worldly goods like the Phantom of the opera was about to reveal his overdramatic self.

You think he’d know the word’s to Angel of Taters? Or help me collect the damn things?

Guess that solves the issue of making a hoe.

And of freezing ‘em.

Just not how I wanted to do it.

When the suit held after five minutes of that I picked my way through the debris and ventured inside. With glass in front of my face instead of fabric, and without the panicked time constraints, it was a hell of a lot easier to get the lay of the land.

Go fuckin’ figure.
The equipment down the west curve of the main compartment looked largely unaffected, but then it would take Mars actually imploding to damage, or even upset, the Big Boys of life support. The immense consoles of the Water Reclaimer, Air Regulator, and main computer systems would laugh in the face of explosive decompression.

The rest of my shit?

Not.

So.

Much.

Also?

Covered in literal shit.

Remember the twelve tonnes of soil I complained about hauling around? Sure, a lot of it got blasted back to the hellscape from which it came, but even more of it didn’t. Instead, it’s covering everything in an uneven layer of dirt. So I don’t just gotta try to pull tables and equipment off shit that I need, but also heavy, heavy dirt.

With everything such a charming shade of reddish-brown, picking out the orange/white of the flight suits, or even the enormous white bulk of the EVAs.

All the cupboards down the east and west walls that had been shut up tight are all blasted open, their doors hanging by broken hinges, their contents disgorged across the space between us.

A quick scan of the rest of the room identified the pressurised case for the laptops. SOP states that the moment you stop using a laptop, it’s to be returned to the case and tucked away, just to ensure that in this very situation the crew doesn’t lose them all. I’m man enough to admit, I mighta gotten a lil’ lax with procedure, right up until I lost one of the computers out on the surface. It looked a little beat-up, but after I dragged the thing outta the Hab and into the light, I could tell the seal was still intact.

Diving back in for more fun in the cramped confines, a second sweep of the Hab still didn’t reveal a suit that was easier to get to that Wilson’s and seein’ how I’d worked through half my available time, I decided to cut my loses and besmirch Sam’s suit with my fine ass.

It was about time the poor thing was wrapped around a decent ass.

I headed back out onto the surface for the metre long drill bit that I’d spied during my earlier meanderings and hi-ho’ed my way inside. What’s that phrase? Gimme a fulcrum and a lever long enough and I’ll get a suit.

You know how hard it is to lever a table off a spacesuit and drag the damn thing free at the same time with only one arm and a bunch of canvas weighing on you?

No?

Let me educate you. It’s really fucking hard.

I’m gonna save you from hearing about it, but I was giddy with excitement when I figured out the lever-nudge-lower-tug combo that finally got the damn thing free. I got carpal tunnel, but it worked. After dumping the suit in R2D2, and doubling back for the laptops, I retired for a well deserved
siesta, watching an episode – or four – of *Dogcops* while I ran every test on Wilson’s suit that I could think of.

Lucky for me, it passed with enough flying colours to start a rainbow.

Now I have a working suit.

I just gotta get the Hab back up and running.

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**Log Entry: Sol 122**

It’s amazing how much life can change in the time it takes an airlock to take on the ballistic capabilities of a .44 magnum. Just a few days ago I was living the life of Riley, reading an email from Ma about that Mrs. Gaskin two floors down having a new hip put in, eating my sliver of NASA brand meatloaf and now here I am in R2D2 again, wondering when the fuck I got so old, and if my back is ever gonna recover from this shit.

Here I am with all my specialized degrees, and all my fancy specialized training, and all my specialized experience, and what has it gotten me?

Screwed, big time.

I do got one thing in my favour.

Flexibility.

Up here, rigidity is death and I’m a real flexible fella. Just ask Ben Lorre from NYU.

So I took my pity party out to breakfast to cheer it up.

Mighta been a mistake.

Y’know what improves the meal packets?

Being heated.

What does my pimped out rover not have?

A microwave.

I’ve eaten week-old, kinda congealed, Chinese takeout that tastes better than a stone-cold sweet&sour MRE.

I’ve eaten dry dog food better.

Before you ask, it was a dare when I was six. The milk bone things were actually pretty good. Better than my current predicament.

After my disappointing breakfast, I took my purloined suit, and new knowledge of Morse code, out onto the surface and spelled out a quick message for NASA. If, in a petty moment, I chose to use scraps from the broken shit littering m0079 front yard, with the busted airlock as emphatic punctuation because I’m nothing if not a dramatic asshole, well…that just ain’t nobody’s business
They’ve not heard from me in three days and though I know they’re watching me, like the voyeurs they are, they’re all gonna be freaking the fuck out down there.

Join the fuckin’ club guys.

Think my ‘Oops. Shit!’ message will get me on the front page? Nerds and Boy Scouts everywhere should get a kick outta that. There’s gotta be a pay off for being a Boy Scout. We don’t even get cookies. We sell popcorn. How well do we sell this popcorn? Well, buddy, ask yourself this: would you rather have a box of Tagalongs or a bag of popcorn.

Those of you that answered popcorn, how dare you? You can no longer read this super long death note. You offend me. Also, when my freezing ass was trying to sell you the stuff, where the fuck where you?

Assholes.

Littered around my feet and out on the surface are hundreds of potatoes. I’m gonna have to solve that storage question sooner rather than later. I can’t let ‘em defrost: squishy raw potatoes are an excellent substrate for mould growth.

And I’m gonna need every single one of ‘em.

But for now, that can wait; everything else is secondary to getting my home re-inflated, pressurised, and holding.

That’s a lie.

First, I’ve got to find the fucking patch kit. I raided it for the lederhosen, but being the conscientious lil’ Boy Scout I now am, I actually put everything back where it came from. One of the cupboards that’s now doin’ an awesome Mother Hubbard impression.

It doesn’t even have its doors anymore.

I wasted fifteen minutes crawling around in the Hab looking for it, before being sensible and heading back out into the blinding sunshine and checking what was lowering the tone of the neighbourhood. No point searching in the dark for something that mighta been on the lawn the whole time.

Spoiler alert, it was.

The patch kit for the Hab is essentially a sized up version of the ones for the kit, just without a breech funnel but including a triple-wide duct tape. I know, I know. I almost came in Sam’s suit at the sight of the tape. Damn sexy stuff. It’s stored in a handy-dandy box that I dragged over to the hole.

Before I started my darning practice, I headed over to one of the other airlocks and used the manual override to throw open the internal and external doors – I’m gonna need to get in and out of the Hab while I’m during my barn-raising impression, and call me a coward, but I ain’t getting into a closed airlock for a while.

Before, fixing the hole, I figured I use it as a skylight and, using my trusty duct-tape sidekick, taped the useless flaps of canvas up and away from the hole to allow as much light as possible into the Hab and crawled back in.

The dome of the Hab is supported – usually – by flexible ribs that maintain the arch, and a rigid,
folding material that keeps the floor flat. If it were made of the same shit as the Hab, when it encountered pressure, the Hab'd inflate into a ball, not a dome and I’d really be in a hamster ball. In the middle of Barnes Farm are two large poles that support the apex of the dome.

Or there were.

Now they’re in pieces across the Hab floor. But for once that’s actually in my favour! It’s what they’re designed to do in a catastrophic situation; rather than snap and break apart, some NASA wise guy took the proverb about bending rather than breaking to heart, and designed the poles to be made up of interlocking parts so all I gotta do is play construction worker – hey another Village People persona! – and get the poles upright again and I won’t have canvas weighing me down the whole time.

I’m gonna remind you that it took three people several days to do this. So when I tell you that it took me hours to get those poles back into position, you can cut me some fucking slack.

And maybe cut my arm off because it is on fire.

Free of canvas, the poles bowing wildly but holding, I was in need of some illumination on the subject of Hab repairs. I spent some time hooking the internal lights up to the batteries, firing them up with a sigh of relief, which morphed into a groan of horror at the full state of my home.

Seeing the Hab like this...it's just reminding me how alone I truly am. How a few pieces of thick, fancy material stand between me and death. That literally all I have on this world is the contents of New Brooklyn and the rover and Pathfinder.

That’s it.

Everything that keeps me alive, everything that I'm dependent on to live is strewn around like they're no more than a child's toys.

Everything that keeps me the right side of the life or death fence and it can be gone in the blink of an eye and there'll be fuck all I can do about it.

There is fuck all I can do about it.

My farm.

It’s gonna be a lot of work, but I can fix the hole in the canvas and put New Brooklyn to rights.

Not so Barnes Farm.

My farm is dead.

All that work...

It’s gone.

Every plant.

The farm previously known as my life saving miracle is a wasteland, frozen and black.

Here’s the thing – potatoes are pretty hardy fuckers. They’re natives of mountainous areas that get subjected to some hard frosts. That can fuck with the stems and leaves and shit, but the tubers are protected by being underground. Depending on the depth of the planting, they’re tucked up all cozy and shit, just waiting for the warm weather to return, the active layer to thaw and voila, brand new
green shoots all healthy.

That ain’t gonna happen here. Maybe half my crop got blasted out onto the surface, naked, cold, and afraid. No, wait. The afraid is me. The rest fits though.

The half of my crop that was well-behaved and observed curfew?

Barnes Farm is frozen solid.

Literally.

According to the many disheartening consoles in R2D2, last night got down to a ball-shrivelling -73°C. The night before was probably the same. Thank fuck for duct tape and weak-ass suit heaters or I’d be a useless block of ice in an airlock instead of the awesome impression of a statue in a ruined Hab that I am rocking right now.

The Water Reclaimer keeps the soil nice and hydrated, which kept my plants real happy. When New Brooklyn lost pressure, most of that water boiled off. The top layer of moisture in the soil evaporated off by the time my ass had bounced twice across the surface. By the time I’d come to and realised my situation, the lower layers of moisture had frozen.

Anyone who has sliced into a raw potato can tell you, those bastards are pretty juicy. Sometime during my roll-athon, each and every one of the tubers I fought so fucking hard for froze solid too.

Any of you paying attention in high school? More specifically, what happens to cell membranes as a result of freezing?

No?

Fuck’s sake, I’m an astronaut, not a fucking teacher.

I'm inclined to say that a live potato that has been completely frozen solid is gonna suffer extensive damage at a cellular level what with the water inside the cells expanding and causing them to burst.

That tends to turn frozen living things into non-living goo upon thawing.

If preserving potato viability were as easy as tossing a tater into the freezer, I wouldn’t have had to write a paper on the advances in potato cryopreservation by vitrification.

It was a thrilling read.

Look it up.

Plants are a little hardier than animals, having a cellulose based cell wall and all, but that wall is thinnest in rapidly differentiating tissue, like spud eyes. It’s possible that some individual cells or small islands of cells in the potato could survive the process, but rot is going to set in pretty quickly after thawing and this would probably overwhelm any remaining living tissues.

The crops in the pop-tents are dead too. When the Hab blew, they lost pressure too because I’d hooked ‘em up to the Hab for their air supply and to maintain temperature.

Every single one of my plants is dead. Every single potato has been frozen.

And ‘cos the universe loves to twist itself into knots to fuck me, that ain’t all.
Even if I did have a viable potato or two, chances are my dirt has gone the way of the Dodo. The temperature fell well below freezing damn quick. Remember, my bacteria couldn’t take that for a long time when I was burning off the excess hydrogen while making water. Instead of a cool temperature for a few hours, it’s been well-below-freezing for days. Bacteria is resilient stuff. It’s the most determined stuff. But even it can’t take that abuse.

I just bet, you’re gonna sit there, in my hour of fucking need and grief and fucking rage, and tell me that I should have kept samples of the soil in airtight containers, along with some live potatoes in one of the other airlocks to protect them.

Right?

Fuck.

You.

Sideways.

You think I don’t know that?

You think I’m not beating the shit out of myself for not thinking to do that just in case, oh I don’t know, the fucking airlock explodes out of the Hab?

I know that if I’d done that I could start to rebuild.

So you know what I don’t need?

You fucking reminding me.

My colonization of Mars is over.

Guess I ain’t making my millions selling farmland up here.

If I’d thought about it, really thought about it, I would have let time run out in the airlock. Just let the air slowly escape and be done with it all.

Why?

Why am I so defeated after what I spent a night rolling a god-damn airlock around?

Well, gee, I dunno.

Maybe because I know exactly when I’m going to die.

Whadya know, psychics are real.

Sol 600.

If you knew you only had a week or a month to live, would you make different choices? Would you have bacon and eggs for breakfast instead of All Bran? Would you turn left instead of right at the end of the road? Go on a trip? Fall in love?

What am I supposed to do?

Roadtrip to Valles Marineris and take some snapshots at the Martian Grand Canyon? Take a few pictures for Ma? Hunt down Curiosity and show it the life on Mars it’s been searching so hard for?
I was only seven days away from harvest, which is good. The food packs are sealed and protected – explosive decompression ain’t doin’ shit to ‘em. You could launch those things into the Sun and nothin’ would affect them.

But they’re still only gonna last until Sol 400. I had about 400 plants before they got shot across the surface, most likely holding about 5 potatoes each, leaving me with 2000 taters. To get through a thousand days.

But I’ll need about 10 a day, because they average about 150 calories each.

It’ll net me only another 200 days.

It ain’t enough.

I’m going to die up here.

Don’t vomit.

Don’t pass out.

Keep breathing.

All of which is a real good plan until the ground decides to fall away from you and drops a fella on his skinny ass when all he’s trying to do is mind his own business and try to cope with the enormity of a shitty situation. Just like when Pathfinder established communication, I fell to the ground, knees cushioned by the dead, useless dirt and I wept.

Every time I try, every fuckin’ time I try, I almost lose everything.

This planet doesn't want me here.

Makes two of us, pal.

I just wanna go home.

Won’t you please just let me live long enough to go home?

But that ain’t gonna happen is it?

I only got enough food to get to Sol 600.

The presupply ain’t getting here until 856.

I’m fucked.

Pretty soon there will no longer be life on Mars.

No more living on the veg.
With no hope of survival via his farm, the ground crew must step up to save Barnes. Unfortunately it means a rush job now must be even more hurried.

It was quiet.
Dead quiet.
Always was at that time of the morning and with the snowfall that’d settled overnight the runner in the distance was enjoying the peace and tranquillity, feeling like the only person left alive, the ‘pfft pfft pfft’ of his shoes impacting the fresh snow the only sound.
Well, not quiet the only sound.
“On your left,” Rogers called out as he overtook Sam Wilson, the pilot preferring a slower pace for his daily 10k.
“Shut it, grunt!”
“Move faster, flyboy.”
All that was expected.
All that was routine.

What wasn’t was the snowball that Steve took to the chest seconds after lapping Wilson.

“Wha-?!”
Another snowball impacted into his forehead as he slowed his pace and looked around, Sam stumbling in Steve’s wake as he started to laugh.

“Fire in the hole!”
Stupidly, Steve turned towards Bucky’s voice and took another snowball directly to the face.

Behind him, Sam fell to his knees with how hard he was laughing, uncaring of how snow was melting into his sweats, the freezing air making his throat sting as he tried to take a deep breath, the wounded look on Steve’s face setting off fresh gales of laughter. He accepted the loosely packed handful of snow that Steve chucked in his direction with good grace as the Captain’s eyes searched the horizon for sign of his attacker.

Steve caught the flash of Barnes’ blue coat up by the treeline that surrounded the track and took off.

Grabbing up some of his ammo, Bucky took to his heels, underestimating both how deep the snow was so far off the track and Steve’s motivation to catch him.

Laughing his ass off wasn’t helping, but he couldn’t stop himself; the look on Steve’s face when the
snowball had hit him had been better than Bucky’d dreamed of and when the 2nd and 3rd had got him right in the kisser?

Totally worth the 5am wake up. The runs were mandatory, but unlike the military AsCans, the majority of the civilian ones preferred to fulfil their fitness criteria at a more human hour of the day. But last night, when Bucky had revelled in the first of the rare heavy Houston snowfall, delighting in how it began to stick to the ground, he’d devised a little plan of action that involved no running at all.

He hadn’t planned that very well, it turned out.

“You needed it,” he called over his shoulder at his Commander. “You’ve been a bear all week. Time to chill out!”

“Oh, I’ll chill,” Steve called out, thighs pumping as he crested the hill, the snow soaking his sweats so that they clung to his strong legs, only distracting Bucky further in his quest to get away.

“You gotta loosen up, pal, enjoy life, laugh-”

Bucky was pretty sure that he’d have gotten away, even with Steve’s surprising speed, if it hadn’t been for the tree root concealed by the snow.

Seconds after he went down, Steve was on him, the large man’s momentum rolling them down the hillock Bucky’d been descending when he’d fallen, rolling over and over before coming to a stop with Steve over Bucky, hands around his wrists, pinning him to the ground.

Steve’s pale skin was flushed pink, his ears and nose cold-bitten red, his eyes bright with amusement, hands flexing subconsciously against Barnes’ wrists, lips just inches from Bucky’s own. All it would take would be for him to raise his head just a little and they’d be kissing. He’d finally feel the warmth of those lips, taste the man he was falling in love with, sink his hands into that silky hair.

Steve was beautiful…

All he had to do was lift his head an inch...

Just one inch…

Bucky’s eyes slammed open.

Only the ceiling of the rover greeted him.

He wept.

[08:12]BARNES: Test. E.T. is phoning home. Receiving me?
[08:25]JPL: Receiving you. You scared a lot of people down here. About your touching message, Miss Potts would like me to remind you about the whole ‘this is all released to the public’ thing.
[08:37]BARNES: Oops, shit. Sorry about that.
[08:50]JPL: Cute.
Satellites read a complete detachment of Airlock 1, is that correct? Your status? Status of Hab?

You and me got real different ways of describing the situation. If by ‘detachment’ you mean that I got shot out of a cannon, then sure. Have gash to head, big bump and suspected concussion but no longer dizzy and not seeing double. Took engineering kit to head. Don’t recommend. Am down another EVA suit. Hab is pressurised. Patched hole with spare canvas. Air tanks intact. Primary air and water tanks undamaged. Rover, solar array and Pathfinder avoided the shit scattered outside. Running diagnostics on systems in between bringing the yard sale in from outside.

JPL: I’d like you to check the Oxygenator and Water Reclaimer first.

BARNES: No shit, really? Now you mention ‘em, Rhodey – this is Rhodey, right? - I was thinkin’ of leaving ‘em to last. Oxygenator already checked, working fine. Water Reclaimer not looking so hot – offline. I think water froze in the tubes. Gonna take it apart, fix it. No I ain’t waiting for you lot to have a meeting about getting a committee together to discuss what I should do and then get back to me. I ain’t got time for that. I’m gonna go in and fix it my damn self. Hab computer online. What the fuck happened, Rhodes?

JPL: Best guess down here is that the repeated cycles of the airlock stressed the canvas. Hab not designed to last so long. In future alternate airlocks. Compiling check list for full test of the Hab structure and canvas.

BARNES: Ooh, hours staring at a wall. I can’t wait.

BARNES: Houston, not to be a Debbie Downer, but we got a much bigger problem. My farm is dead. Ain’t gonna sugarcoat it for ya - I will be too by Sol 584, 600 at the outside. No pressure, but I kinda don’t wanna be dead. I’ve been working real hard to not be dead. Have 1841 potatoes. Not enough to survive to resupply.

JPL: We’re working on it. Keep your spirits up.

BARNES: What with?

“During the break, Doctor Garner, you began to explain to me the importance of Barnes being the mission botanist was more than just him being potentially able to grow his own food.”

Garner nodded.

“You stated that growing plants within the Hab was, in fact, emotionally beneficial for him, especially in light of his being alone. Would you care to expand on that for our viewers?”

“Absolutely, Christine. Plants are a vital part of the earth's eco-system, but they do more than cycle carbon-dioxide from the air, and provide food, they offer a real sense of tranquillity. So many people would tell you that time spent gardening, or on a stroll in the park or through the woods, can improve their mood considerably. In an artificial environment like the Habitat that Barnes is having to survive in until we can get him home, that’s incredibly important.”

“But surely, they can’t provide that much in the way of mood boosting?” Christine asked, a faint hint of disbelief in her tone.

“Actually, we know for a fact that they do. Back when the International Space Station was in atmo,
what was then the Russian Space Agency, NASA, and Utah State University worked collaboratively
to determine how to grow plants in space – this was back when we thought that roots grew down
into the earth because of gravity, but of course we later learned that wasn’t the case through a variety
of experiments on ISS – but also what the psychological value of plants, live plants, was to the
astronauts that were spending months, or even up to a year, in space. As a result we were able to
quantify the degree to which plants are important to a person’s psyche. In 2002, a collaboration
between Utah State researchers at the Space Dynamics Lab and scientists from the Institute for
Biomedical Problems in Moscow began the cultivation on ISS of Lada, a suitcase sized greenhouse
with peas, and a form of lettuce growing. Lada was used to determine the effects of microgravity on
plant growth, but it was also there to provide a green space for the crew during their long residences
on ISS. The project was so successful that when Valkryie was built, a small greenhouse named Idun
after the Norwegian goddess of spring, was created on board due to the length of time the crews
would be aboard.”

“And why would that be important, Doctor?”

“Because more often than not, what the astronauts reported as being most difficult on ISS wasn’t the
confinement or even the lack of interaction with other people than the few others on board, though
that was often difficult, but rather the sort of things we here on Earth take for granted: the chirping of
birds, wind on their face, fresh feeling air.”

“And growing plants would help with that?”

“Absolutely. We have to minimize the amount of cargo that we put on a ship, but at the same time,
we have to try and keep the crew mentally and emotionally stimulated and in touch with Earth. Idun
allows just that. Idun provides a small patch of Earth growing right there with them. Something they
could tend to, or watch over, or even just sit and enjoy. Growing a plant, as any budding gardener
can tell you, can make you feel you’ve achieved something. You feel in touch with nature, with
life. In a situation where you can’t go outside and you can’t do as you might wish, when you are
literally sealed away from nature, there is nothing like growing plants to help soothe the mind.”

Christine laughed, leaning forward on the desk between them.

“Surely you’re not suggesting that growing a few plants was helping Barnes cope with the mental
agonies he must be enduring after being left behind on a planet?”

“That’s precisely what I am suggesting, yes.” Garner’s own smile was brittle.

“I, like most New Yorkers, live in an apartment, the most greenery I’ve ever had is a window box,
and I wasn’t that interested in that, if I’m honest.”

“While perhaps there are, absolutely, people that have no care for plants or even feel they’ve no need
for them, we had to ask ourselves if those were the most mentally stable of individuals, and if not,
were they the sort of candidates we wanted up on ISS? Are in fact those that enjoy interacting with
plants, with nature, people that are more mentally stable?”

Christine arched one perfect brow, cocking her head to one side as she sat back.

“Touche.”

“We know that cultivating plants helps with distress because after the Columbia disaster, the crew
members on the ISS were very obviously shaken up by the loss of their friends, of the reminder of
what could easily happen to them too upon their return home. It was recommended, by the Russian
space agency, to have them all scheduled to spend more time with Leda, caring for the plants,
because of the calming effect doing so had, and we were all able to determine that spending time, more time, caring for the plants in the greenhouse did in fact calm the distressed astronauts more than anything else. So if Leda could be used as a psychological tool to help regulate the stress and difficulty of life off-world, then Barnes having plants was an incredible benefit to him, independent of their use as a food source."

“And is that likely to change now that his farm is dead?”

Garner looked at the reporter like she’d just asked him if water was wet.

“Of course. He’s just suffered an enormous blow. The farm that was going to allow him to survive until Ares 4 could collect him is gone. He’s having to face his own mortality in a very real way. Again. Something that filled his days is gone, and now the mental and emotional boost that having the farm afforded him is also gone.”

“I think I have to ask the question that has no doubt passed through the mind of everyone on the planet – will he survive this?”

At seven a.m. Tuesday morning, Bruce shucked his glasses onto the table in front of him and rubbed his stinging eyes. From the moment they’d see the images of the Hab decompressing, his stomach had dropped, the blood in his veins turning to ice. There was no way the farm was going to survive that. It’d been hours before they’d determined Barnes had survived, the airlock rolling across the planet surface, but all the while they knew that the farm was gone.

Had to hand it to the man – he was one hard bastard to kill. If he didn’t already have the nickname Bucky, Bruce was tempted to refer to Barnes as ‘cockroach’.

But this last set back might have been enough to finally kill him. Should be enough to kill him. Though from what Bruce had heard of Garner’s latest rodeo on The Barnes Report the Director of Mars Missions had managed to sidestep answering Everhart’s latest round of ‘is Barnes going to die for the whole world to see?’ question

Bruce looked at the rest of his team; they were all beyond exhausted, and these were people who loved the strain of an overly-full workload, and that laughed in the face of deadlines. Generally in the hope that they’d get scared and run away, but Bruce stood by his team being the most fearless and determined in the damn agency.

But those deadlines rarely held anything worse than being chewed out by Bruce after Fury was done with his ass for being over-budget and overtime. The world was not usually watching this closely either.

Wasn’t this a fun learning experience for everyone?

Bruce was 95% certain that most of his team was running on a dangerous cocktail of adrenaline and coffee; he’d already had to send one of them to medical after Robbie Baldwin admitted that making his coffee using Red Bull instead of water might have been a mistake, turning Robbie into even more of a dynamo. According to Cho, his heart hadn’t so much been beating as it was vibrating, the palpitations sending his whole system reeling.

Even so, Robbie was still feverishly working as Cho pumped actual vitamins and fluids into him and reintroduced him to sunlight, hacking into his desk computer with embarrassing ease – Stark was
deeply offended – and peppering the team with hourly emails. Bruce was one ‘ping’ away from asking Cho to sedate the kid.

Those that weren’t close to a self-induced heart-attack were equally pale, eyes bloodshot and hands almost surgically attached to either a coffee cup or a printout, a faint tremble detectable in most, either from caffeine poisoning or lack of sleep.

He had only a passing memory as to what sleep was anymore. He certainly couldn’t remember what his apartment looked like. If it wasn’t for Betty calling him several times a day, he’d likely forget to eat.

God he missed spending time with his wife. The smell of her hair when she came out of the shower, the sound she made when he stepped up behind her to wrap his arms around her while she made breakfast, the little soft exhalations he’d never dare call snoring while she slept, the feel of her lips on his…

And if he missed all that, from twenty miles away from home, he had no idea how Barnes was feeling.

His team never tired of letting him know just how they felt about it all. Practically from the moment the airlock had bounced the first time, the crew had been pulled from their beds and stuffed into rooms with more computers than anyone could ever need.

But for all that, they hadn’t made much progress.

It was the worst Bruce had felt since he’d learned of Bucky’s survival – the ever-present knowledge that every second that ticked away without an answer was a second closer Bucky was to death.

Bruce sighed. “Right now, it’s Sol 122. We have until Sol 584 to get Barnes food. That’s 462 sols, meaning we have 475 days to get the probe to him.”

The other department heads nodded along, eyes glued to the reports before them.

“So they needed it ahead of schedule, and now they need it faster,” Melinda May reiterated, eyebrows raised as she sat back in her chair, looking for all the world utterly at peace and serene.

The ever-present grey mist at the edge of Bruce’s vision deepened, the aura promising a doozy of a migraine would develop if he didn’t pop another handful of pills. Way he was chowing down on the things he should have bought shares in GlaxoSmithKline. Or was going to start glowing from some sort of chemical mutation. Without looking, Bruce rooted around in his jacket pocket, fingers closing gratefully around the overfamiliar bottle before he shook a couple caplets out and swallowed them dry with a grimace.

Not the most wholesome of breakfasts.

Dropping his head onto his hand, and ignoring May’s curious look, Bruce fumbled for the phone and called Selvig for an update. Might as well get all of the bad news out to the team to set them up for a really stellar day.

“Bruce!” At least someone was awake, if sounding a little too manic for Bruce’s liking.

“How’s it coming with th-”

“There’s not much to work with, I’m afraid. The positioning of the planets is what it is – it’ll take a minimum of 414 days under current conditions for the probe to reach Barnes.”
“What about maximum?” May asked, leaning forward to rest her elbows on the table.

“We are running the numbers, but potentially as high as 425.”

“Shit.”

Silence sat on the line for several seconds before Erik hummed his agreement with Melinda’s assessment.

“What do you need from me, Doctor Selvig?”

“A time machine and infinite resources?”

On the other side of the table someone sniggered.

“A little more attainable?”

“A gateway to another dimension?”

Banner had to hand it to the man, that was far more likely than squeezing any more cash out of Congress.

“Anything else?”

Silence reigned again before there was the sound of rustling, an all too-familiar sound to Bruce and his heart sank. He knew exactly which of the man’s journals had been pulled out: the sane portion of the conversation was over.

“If we could make use of the gravitational effects of the Convergeance, then perhaps we could utilise a slingshot-”

“Doctor Selvig, ladies and gentlemen,” someone muttered, before a gasp that Bruce associated with the mutterer’s shin being introduced to a boot.

“Thank you, Erik.” May reached out and ended the call.

Rubbing his temples, Bruce looked up at his team. “Mounting the probe on the launch pad and carrying out the necessary tests and checks eats up thirteen days, so best case, we have forty-eight days to make the damn probe.”

There was a chorus of ‘fucks’ from the assembled team, many looking at Bruce with a slack-jawed horror that would have been amusing under different circumstances. He wondered just what they’d thought their meeting was going to be about: they had to have known from the first bounce of Barnes’ ass, that the time frame had been slashed.

“Food is the focus. We also don’t have the time to build a powered-descent lander,” Bruce said. “Which means no radio, no spare Oxygenator and no Water Reclaimer. Food only. This is going to be a tumbler.”

“Kaboom,” someone helpfully whispered.

“We’re stealing the Insight 3 booster?” Melinda asked, drumming her perfectly manicured nails against the immense coffee cup in her hand, a dull thudding echoing within the paper cup.

“I prefer the term ‘re-purposing’, but essentially, yes.”
“Bet they’re pissed.”

“Doesn’t begin to cover it.”

Another chorus of obscenities rose up.

“Started in on some scientific ethics bullshit, but shut up when Fury asked them about the ethics of letting Bucky die. They’ll get over it.”

“We’re going to re-purpose what we’ve already prepared for the Ares 4 pre-supply probes, which will save us some time. Barnes has also proven he can travel hundreds of kilometres if needs be. If we can’t get it close to him, he can go get it. And food is food – it can smack into the surface and it’ll still be edible.”

“You ever eaten the food we send up?” May asked dryly. “Might be improved with a little Martian seasoning.”

“As of now you have no other reason in life but this probe. Call your families, remind them what you sound like and then get to work. Those of you with families, call Pepper, she’s organising daycare. You got a birthday, celebrate next year. You ass is in this building until we get that bird in the air. Anyone have a problem with that?”

As expected, while there were a number of wide and wary eyes staring back at him, nobody at the table raised an objection. Not once they caught sight of Melinda’s face, anyway.

“What Bruce means to say,” said May, “was that we treat this like a normal supply run. Just faster.” She stood up, gathering her papers, pitching her empty coffee cup across the heads of those to her right and netting herself three points. “We’re out of time, rushed and hoping not to get someone killed. Feels like the good old days.”

Bruce heard the door click shut behind the last member of his team and he flopped back in his chair. He felt like a rabbit after an unfortunate altercation with a Semi. He felt the seductive tug of sleep, the lassitude in his limbs, the heaviness in his thighs that he knew a good stretch wouldn’t be enough to clear, the weight of his eyelids almost unbearable.

He was going to sleep. Nothing he could do about it. He was so far past exhausted that he was starting to loop back around on himself to being wired as fuck, but at least the pills were kicking in and the nausea was abating. Bruce was still aware of the grey mist flickering at the edges of his vision, the words on the report in front of him still warped and crawling across the page when he tried to focus on them, but the light-headedness was passing.

Yay pharmaceuticals.

The ulcer in his gut, however, was another story all together. Between the shitty coffee, shittier food, and no sleep, it was a race to the finish line to see what would kill him first.

Even in reduced gravity, Natasha made enough noise to raise the dead as she hurtled down the narrow corridor, slamming into the ladder and sliding down it with her hands and the arches of her feet on the outer edges of the rails.
“Rogers!” Reaching the bottom of the ladder, she fired off down another hall, heading towards the crew section.

“Rogers!”

She and Steve collided as he flung himself out of his bunk.

“What? What’s happening?”

“NASA confirmed visual contact. Barnes is okay. He’s back in contact and re-inflated the Hab. He’s okay.”

“You’re sure?” Steve grabbed her by the shoulders, his fingers biting cruelly into her skin, but she didn’t care.

“I’m sure, Rogers. They sent an image. He’s okay. He’s okay.”

Steve slid down the wall, his huge shoulders curling in as he put his elbows on his knees and dropped his head into his hands, a sob of laughter breaking out.

“He’s okay.” Steve sounded vaguely hysterical but Natasha’d take that over the alternate—smashing everything in sight.

“You know, Romanoff, we have a really state-of-the-art radio system,” Sam drawled as he made his way past them running his hand over his face. “You scared the shit out of me!”

Natasha, the little shit, just shrugged.

Clint emerged from his own bunk, hair askew and with dried drool flaking at the corner of his mouth.

“Wha’s goin’ on?” He mumbled, blinking against the bright lights in the corridor.

“Our crewman has survived his ordeal,” Thor lumbered down the hall balancing several cups of coffee, handing them out and toasting his own against Sam’s when the pilot held his up. Nobody had any idea how Thor always managed to carry multiple cups from the kitchen to the sleep area, especially considering the changes in gravity between the two areas of the ship, but most where content to pass it off as magic.

Thor certainly wasn’t telling.

“He gotten back in contact?” Steve asked, hope in his tone. They all still knew NASA was heavily editing what they sent to Bucky and what they received in kind, but Steve couldn’t stop himself from wishing there was an email for him in the next data dump.

“Not that NASA is forwarding to us, but yeah he’s in contact with them and he’s re-inflated the Hab and moved back in. He’s okay.”

“They tell us anything else?”

“No, but it’s the best news we could have gotten.”

“Thank fuck for that,” Clint murmured as he took a sip of his coffee, leaning against Thor in gratitude.

Or just taking advantage of the way the man was built like a rock.
It was hard to tell with Clint.

[08:02] JPL: We’re working on food. It’ll be tight but we’ll get it to you in time. Just food and a radio; Oxygenator and Water Reclaimer won’t survive tumbler.

[08:17] BARNES: You get me food, we’re good. WR humming again – burst tubes replaced. Lost 300L to sublimation after decompression, but had made 600L w/ Hydrazine – you know that stuff goes boom? – so I’m good on H2O.

[08:30] JPL: You did WHAT with Hydrazine?

[08:32] JPL: Good work – you successfully made someone down here piss his pants. Keep us updated on status. BTW, the probe is named Zephyr One after the God of the West Wind. Incidentally also the Messenger of Spring.

[08:45] BARNES: Roger. The God of baby bunnies and lambs is gonna save me.

“Welcome back to The Barnes Report. If you’re just joining us, Director Rhodes is in the studio to discuss the ambitious project, Zephyr One, the probe that will be transporting life-saving food to stranded astronaut James Barnes.

“Welcome Director Rhodes.”

Rhodey inclined his head, baring his teeth in what would, in polite society, be called a smile.

“Happy to be here.” There was a reason Rhodes wasn’t a talent that was lost to the stage.

“The Zephyr One project was announced only weeks after the discovery of Barnes’ survival, and around the globe, numerous engineers and scientists that are not affiliated with the project raised concerns that it would be an ambitious timeframe to complete the probe.” Rhodey nodded, aware of where Christine was headed. “Now with the total loss of the potato crop, the timeframe has been slashed. Surely it’s fair to say that what was ambitious has become something akin to a miracle if NASA is capable of pulling it off?”

“If NASA has proven anything over the years, it’s that we thrive under such conditions. There was a time that walking upon the Moon was a dream, and yet...”

“For a company with such a noble agenda, with such high ideals, it seems you go out of your way to obfuscate the truth.”

“Excuse me?”

“What is the final cost of the intervention of NASA in Barnes’ survival? At a time of diminishing returns Who does it answer to for this tally?”

“Why, Senator Stern, how much you’ve changed.”

“I beg your pardon?”

“I’m just wondering, while we’re on the topic of transparency, how many of your viewers are aware
that Senator Stern, leader of the Oversight Committee and the loudest voice against a rescue mission for Barnes, holds a controlling interest in your network’s parent company?”

Everhart froze for several uncomfortable seconds before she rustled her papers, knocking them on the desk, organising them, busy work for her hands as she turned to face the camera fully. She was feeling defensive and on the back foot.

The vindictive part of Rhodey, the part that it normally took several concerted hours of a goading Tony to reveal, revelled in it. Time and again over the prior weeks, Everhart had attacked the cost of the rescue mission, and while Rhodey was sure that it was a hot-button issue, he was even more sure that, getting nowhere on the hill, Stern was using his influence over WHIH. *The Barnes Report* was the number one rated web series in the world, raking in millions of viewers a day, far exceeding the latest comic epic on Netflix, and mentioning the exorbitant cost of the rescue a few times a week was keeping the query fresh on the minds of the average American.

“I’d like to reassure our viewers that while Senator Stern is indeed the majority owner of the network, he neither drives agenda nor has any input with the show.”

‘*Yeah, and pigs might fly.*’

“Nevertheless,” Christine turned back to Rhodey, “the question remains: when Barnes, and any other astronaut, sign on to a mission, haven’t they tacitly agreed to the dangers and potential of not returning?”

“Visitors at an amusement park are rescued when their rollercoaster breaks down. Are you suggesting that we leave people hanging upside down until they die because they chose to get on the rollercoaster?”

“Of course not—”

“If a soldier is captured on the battlefield, do we send rescue missions?”

“Of course—”

“But you’re suggesting we leave an American hero to die a potentially horrific death on Mars?”

“I don’t think anyone is suggesting that, Doctor Rhodes.”

“Really?”

“If that is what you are taking from my—”

“How would you like it to be interpreted?”

Christine glowered at him, backed into a corner as she was. If she admitted the cost was too high, it was as good as leaving an American hero to die, not words that looked good on the front page and would kill her career. If she admitted it made no difference, that any cost was defendable, it called into question weeks of episodes in which she blasted the high cost of the rescue effort.

So she responded as any good political pundit did. She diverted attention away from herself and onto someone that wasn’t there to defend themselves.

“Where does the White House stand on this? Is the President favouring a particular side of the issue?”
“President Ellis has yet to weigh in publicly on the matter.”

“You’ve met the President more than a few times, Mr Rhodes, and my sources within NASA tell me that Fury and President Ellis have been in contact weekly since this rescue effort began. You served with him when you were both in the military, he is in regular contact with the Agency, and you can’t tell me where he might be leaning?

“Just between us?”

Christine leaned closer, eyes alight with sly glee.

“Absolutely.”

“In that case, I can tell you that President Ellis has yet to weigh in publicly on the matter.”

Jane Foster sipped the last of her fifth can of Red Bull of the day. Or rather the night. Her office was the one bright spot on an otherwise deserted floor, but bowing to her circadian rhythm hadn’t been something Jane had allowed since she’d first entered her PhD program.

Astrodynamics wasn’t her particular specialty, per se, but her mentor Erik Selvig had asked her to work with him to ensure that Zephyr One would get to Barnes on time.

Over the years of the selection process for Ares 3, Jane had met the whole crew multiple times and she’d built a friendship with Barnes, particularly after Thor was chosen for the crew. When she’d heard of his death she’d been torn between relief it hadn’t been her husband – which made her sick to her stomach - and devastation. His memorial had been heart-breaking, to see the crew, to see her husband, so cut up and unable to comfort them. Many around her would claim, relatively rightly, that unless it was science, she didn’t notice what was going on around her, least of all social interaction, but she’d spent enough time with her friends to know of the feelings between Bucky and Steve, and she’d been elated to hear Barnes had survived, thrilled to tell Thor. When Fury had advised that their messages would be edited for content should any of the astronauts families do just that, it had gone against her very being.

When Selvig had asked her help, she’d jumped at the chance to help ensure Barnes was brought home.

It was almost 4am by the time she finished running the final tests on their computations.

They passed.

With a happy sigh, she sat back and smiled. Jane didn’t give a shit about the long hours, barely noticing the time passing – what did she have to return home to? Her husband was millions of miles away, her intern was taking exams and Erik was here. Working with him again had been a dream come true.

Her role was to find the exact orbits and course that would get Zephyr One to Mars, and to Bucky. Normally that would have been the first stage of any such project, with everything else falling into place once optimum planetary position was determined.
This was a little more complicated – at the moment it wasn’t clear when Zephyr One would be complete and so a launch date wasn’t set. Just that it had to be as soon as possible. A non-Hoffman Window Mars-Transfer wasn’t difficult in of itself, but it did require the exact locations of Earth and Mars.

Without knowing a date of launch, the exact locations were not known, and even a single days’ difference in launching would mean the difference between success and failure.

Life and death.

So Erik and Jane had been plotting 25 days’ worth of courses that Zephyr One might be launched during.

Opening a new programme, she began an email to Erik.

‘Attached are the course projections for Zephyr One with 1 day increments over 25 days. They were successful in simulations. We should begin review immediately.

There is no variance in travel time – 414 days for each day, with small variances in fuel amount required. Insight more than capable, despite poor positions of Earth and Mars. It’d be easier to-

Jane stopped typing, lost in thought as she stared unseeing at the screen.

“Huh.”

Grabbing the Red Bull can, she threw it into the recycling box she kept by the door, and then slid her wallet out of her coat.

Time to hit the vending machine. This had just become an all-nighter.

“None of us have time for this, so make it fast,” Fury ordered. “Status reports, Rhodey, go.”

“Mission team ready. Turf war between Ares 3 and 4 teams shut down. Ares 4 team pissed but they’ll get over it – they’ve got 13 presupply missions to prepare for, Ares 3 is free and clear to take command of Zephyr One.”

“Stark, launch?”

“Control room is ready. I’ll oversee the launch with my usual debonair flare, and then cruise and landing is Rhodey’s jam, even if he doesn’t do it with style.”

“Ms Potts.”

“It seems that multiple daily updates are keeping the press happy. The world knows that Bucky is going to die if Zephyr One were to fail. The public is engaged and behind us all the way; they’re holding launch parties for the first time in decades, there’s talk of fundraising campaigns to help with the costs...The Barnes Report is the #1 show for CNN in its timeslot and millions more viewers worldwide online.”

“Keep the attention high. It’ll help us get the emergency funds we need.”
“If Stern’s puppet doesn’t keep harping on about it,” Tony muttered.

“Yes, Rhodey, did I tell you how much I appreciated you going after Everhart live on TV?” Pepper asked, a hard glint in her eye when Rhodey nodded.

She had. Loudly. Repeatedly. With terms that Rhodey had had to look up afterwards, locking his office door in case some wayward intern walked in on him Googling what the fuck ‘doot’ meant.

He hadn’t really been any better informed afterwards but he had been impressed with Pepper’s lung capacity and ability to keep questioning his intelligence and sanity. Rhodey supposed it was because she wasn’t used to such a receptive audience: Pepper was used to trying to rein in Tony, a man that would have either instantly started to talk over her, dismiss her, or manage to organise an oh-so convenient call.

Rhodey liked to think Pepper had found the experience cathartic. She’d certainly looked happy enough when she’d finally said her piece.

“Hill. Booster.”

“Alright at the moment. My mission was set to launch,” Maria Hill’s tone turned bitter at Insight 3 having been scrapped and gutted for parts, “but it’s not designed to just sit on the pad. We’ve propped it up with more external struts that we’ll detach before launch. For the moment we’ve drained the fuel because it’ll corrode the tanks otherwise, and we’re carrying out daily inspections.”

"Hill, I know you're pissed we requisitioned your booster-"

"Stole it."

"It will occur later. For now you’re Pad Operations Director for Zephyr One. It’s a fair trade."

Hill arched an eyebrow.

“Get over it.”

“I am over it.”

Fury blinked slowly at her before reaching into his coat and extracting a sheaf of papers from an inner pocket, tossing the pages over to Hill. “Want to explain that, then?”

“What is it?” Tony asked, pushing his chair back to circle the table and peer over Hill’s shoulder. A grin spread over his face.

“Is that…did you accidentally forward a shitty email about Fury to our lord and master?”

“No.” Maria tried to screw the pages into a ball but Stark was too quick for her, snatching them out of her grasp.

“Did you seriously use MS Paint to draw a turd with knives sticking out of it?”

“No!”

“Really? This right here isn’t shit with knives in it?” Tony thrust the paper under Rhodey’s nose. “Try and tell me that isn’t shit with knives in it.”

“It’s a porcupine!” Hill defended hotly.
“It’s enough.” Tony’s neck cracked as he cranked it round to look at the Director, wilting under the stare he found there. It didn’t stop him from carefully folding the printout in his hand and tucking it into his pocket with a whispered ‘later’ to Rhodey, but it did send him back to his seat with minimal fuss.

“Bruce,” Fury turned to the bright spot of sanity at the table, “Zephyr One.”

“It won’t be what you want to hear.”

“Tell me.”

“We’re doing everything we can, working around the clock, double shifts and even triple shifts, but we’re behind.”

“I’ll find you more funding for overtime.”

Bruce shook his head. “Don’t think it’ll help. We’re already going as hard as we can.”

“How far behind, big man?” Stark asked.

“We’re at 29 days now. We’ve got 19 left. After that, Hill’s team needs 13 days to mount and inspect. At the moment, I’d say 15 days short.”

“Fuck,” muttered, Hill, Fury and Stark.

“You going to get more behind?” Fury asked, starting to pace.

Bruce grunted. “Assuming no problems, 15 days. We need 15 days.”

“Let’s create it.”

Fury turned to Helen Cho, Flight Surgeon.

“Doctor Cho, can Barnes ration further?”

She shook her head emphatically. “No. Absolutely not. He’s already at minimum, and carries out more physical labour than I’d like given that reduced intake. Soon his diet is going to subsist of only potatoes and vitamin supplements. He’s been saving high-protein packs for later use, but he’s still going to become malnourished sooner rather than later. If he rations further he’s risking not permanent damage to his body, but also his mind. He’s not going to be able to think clearly, follow instructions, or care for himself.”

“And if he runs out of food?”

“Law of threes; 3 minutes without air, 3 days without water, 3 weeks without food. More or less.”

“Zephyr One will be a tumbler,” Bruce reminded them, “and might be hundreds of kilometres from him. He’d have to travel to it. Would that be possible?”

“Highly doubtful. Within four days he’d barely be able to stand, even in the reduced gravity, let alone handle a rover. His mental faculties will diminish as rapidly, if not more so. He’ll barely be able to stay awake. You could land the probe on his doorstep and he’d be too weak to go and get it.”

“What you’re saying is, landing date is firm. Hill, can you prep the booster in less than 13 days?”
Maria made a face as she thought. “Three days to mount, ten days to test. Maybe, with OT, we could get it down to 2 days to mount, but those test days are time-dependent. We have to inspect the booster repeatedly, checking and re-checking multiple components. Reduce the time between checks and those inspections are invalid.”

“Chances of inspections revealing a problem?”

Maria narrowed her eyes.

“Are you really suggesting skipping the inspections?”

“Not yet. Answer the question.”

“1 in 20 launches,” Maria bit out.

“Of those, how many are likely to lead to mission failure?”

“Maybe ½ the time.”

“So without tests, we have a 1 in 40 chance of failure?”

“That’s 2.5%” Rhodey pointed out. Under normal circumstances that’d be more than enough for an abort.”

“Look around Doctor Rhodes. What part of this seems normal to you? Ladies and gentlemen, normal was several zip codes ago. 97.5% is better than 0. Can anyone think of a safer way to get the extra time?”

The room was silent.

“Right. Speed up the booster mount and skip the inspections. That’s 11 days. Bruce does his usual magic and gets this done faster, Hill can have her inspections.”

“And the other four days?” Rhodey asked.

“He’ll have to make the food last.”

“Director, I cannot-” Doctor Cho began.

“I understand your position. And yours, Hill. This all means risk. But without this risk, Barnes will die. Find a way,” he said to Cho before leaving, the woman nodding unhappily in his wake.

“Jane,” said Erik from the door of her office.

Her office was a bombsite. Her desk was almost entirely buried beneath a mountain of charts and printouts and reports, landslides threatening from all sides. Even the drawers had been pulled out to provide convenient places to store open books so she could see them as she typed.

More reference books littered the floor, tabs marking pages in every one. The recycling box was overflowing with Red Bull cans and coffee cups, and takeout cartons held court over any remaining
floor-space, the aroma of old Chinese food heavy in the air.

“Jane,” he repeated louder.

“Hmmm?” She replied without looking up.

“What are you doing? This doesn’t look like your work on the Bridge…”

“Oh, side-project. Something I wanted to check on…”

“I need you to focus on your other wo-"

“I need supercomputer time,” Jane announced, typing rapidly.

“For?”

“The side-project.”

“Actually…would now be a good time to use some of that back vacation time I’m owed? You mentioned the other day that I have to use it or lose it. It’s, uh, it’s important.” Jane turned from her computer to stare intently at her mentor. She looked exhausted and pale but something in her eyes grabbed Erik’s interest and he looked over the paperwork strewn across her office.

“Yes. Yes, you look…tired. You should get some rest. Forward the analysis work from last week to me before you leave.”

“Oh, I’m not leaving.” Jane dragged a book over to the desk by use of her foot, picking it up to flip through the pages.

“Okay.”

“You need help-”

“Coming to you first.”

With one last look at his former student, Erik left her to whatever it was she was working so hard on. He knew it had to be of supreme importance – Jane would never let anything less take her attention from her work otherwise. She’d tell him what she was so intent on when she was ready.

[08:01]BARNES: How’s my gassy god?
[08:16]JPL: Behind schedule but we’re getting it done. But here’s the thing – we decided if we’re working out asses off, you get to be put back to work too - Hab maintenance is only going to take a couple hours a day of your time and without farm, NASA wants to fill your time with exciting research and experiments.
[08:35]BARNES: Aww shit. Knew you guys’d want me doing six people’s work up here. I’m just a performing monkey to you. Do I gotta?
[08:50]JPL: Save the complaining for someone who cares. You got something better to do with your time, Barnes? Don’t let me keep you from all that exciting Mars nightlife.
BARNES: Funny guy. Lay it on me then.
JPL: It’s cute you thought you had a choice.
BARNES: Slave drivers.
JPL: Science teams devising list of duties – mostly EVAs for soil samples, geological samples. You might want to retrieve any of the others’ notes from the surface if they ended up out there. Speaking of, we saw numerous EVAs during Pathfinder mission. Was that for samples?
BARNES: You ever not spying on me?
BARNES: That’s a yes, by the way.
JPL: Good. You can earn your keep. Doctor Cho sending tests for you to carry out on yourself every four days or so.
BARNES: Your TV getting interactive, huh? Feel like interplanetary Truman Show.
JPL: Your ego is gonna get worse than Stark’s. People are just excited – best extended Mars time that we’ve had to research since Opportunity.
JPL: Barnes?
JPL: Barnes?
BARNES: You know Opportunity never came home, right?
BARNES: Sorry. Bad example.

The Whiteroom at JPL’s Spacecraft Assembly Facility had been the birthplace of the most famous Mars going crafts in the world, from Mariner to Spirit to Opportunity to Curiosity.

And now Zephyr One.

Never before had a probe been a literal lifesaver and those working on her couldn't have been more proud at what they accomplished in such little time.

When the techs sealed Zephyr One in the shipping container, a buzz broke out on the Whiteroom floor. The other two shifts of workers looked on from the observations deck. They were all exhausted and overworked and feeling decidedly queasy from months of nothing but cafeteria food and lack of sleep. But they’d never been more proud.

Tonight they’d sleep in their own beds, content in a job well done.

When the shift head tightened the last bolt and stepped back, a roar of triumph rippled through the crowd as the workers celebrated.

After a mere 62 days, Zephyr One was complete.

Now she was someone else’s problem.
Pepper looked out at the cameras and the lights and regrets, to her very bones, agreeing to bite this particular bullet in half and sit down with Christine.

Fury had simply raised an eyebrow at the very idea, Tony certainly wasn’t going to be allowed to do it and Rhodey had proven that when he’d not slept in several days and that vein on his forehead was threatening to pop he was not to be trusted on live tv with a woman that had a tendency to push his buttons.

Coulson wasn’t an option – it wasn’t an accurate representation of a man she knew could go toe to toe with the best of them, but get him around a beautiful woman and a camera and the Deputy-Director appeared meek and lacking in power.

Hill was still bitter about both Insight 3’s cancellation and the scathing opinion piece Everhart had published two years previous. She was not an option.

Pepper had toyed with the idea of May, the other woman probably the only person she’d ever seen Christine actually afraid of, but Melina was up to her perfect eyebrows in work, her desk barely visible behind towers of papers and boxes and binders.

Bar putting Kate on the damn show, that left Pepper herself. So she’d pulled on a clean suit, an all-white Tom Ford number that made her feel like a warrior, slipped on her highest heels, reapplied the perfect shade of lipstick and once more went unto the breach.

All the while trying to pretend she didn’t hear Tony drumming up interest in bets on who was going to survive.

Sometimes she wondered why she loved the man, she really did.

“This is quite the auspicious day here at The Barnes Report. Not only because of the launch of Zephyr One is finally upon us, hence the early hour of today’s special, but because today I welcome a very special guest to the show to tell us more about it; please join me in extending a warm welcome to the most famous Media Director in NASA history, Pepper Potts.”

“Thank you for having me.”

“I must say, Ms Potts, I’m surprised that today of all days you’re available, but I suppose even after all these years, Stark and Fury still have you doing the chores they don’t want to.”

“I do everything that my role requires of me, including, on occasion, taking out the trash.”

Christine’s answering smile was tight-lipped.

“So, Ms Potts, what can you tell me about Zephyr One?”

“As of this morning, all of the launch prep is complete and Zephyr One is ready.”

“Zephyr One was finished in a record amount

It will launch at 9:14am, remaining in Earth’s orbit for around 3 hours while Mission Control collects exact telemetry in preparation for the burn to Mars. Once that phase begins, Ares 3 pre-supply team, led by Director of Mars Missions Rhodes, will take control. In 414 days, Zephyr One will be at Mars with her lifesaving contents.

“Questions?”
"I've heard reports that whilst some components that were planned to be sent had to be scrapped, that there is more than just food onboard," Christine called out without waiting to be asked.

"Yes, luckily to try to make James' stay more bearable, the team at JPL were able to allot 100 grams for luxury items. That is made up of handwritten letters from his mother and sister and a USB drive with pictures, letters from the public, and more TV and music."

"Disco?" Christine asked.

"No. Remember, we wanted to send items to help him survive, not make him want to kill us."

"If the launch fails," Christine continued swiftly, before Pepper could call on anyone else, "is there a backup plan in place?"

"All launches come with risk," Pepper dodged the question with a smile that Christine didn't return, "but we don't anticipate that Zephyr One will have any problems. The weather is perfect and conditions couldn't be better."

"While the public certainly is behind this rescue mission, is there going to be, or is there already, a spending cap in place? Barnes is one man, and many may begin to feel that such measures to save him are extreme." Christine inquired, barely allowing Pepper to draw breath.

In truth, Pepper had been awaiting this question for months, and was well prepared.

"Saving James Barnes is about far more than the bottom line. It's about the core of humanity. It’s about a human life in immediate danger, and the lengths mankind go to preserve that life is part of what separates us from other animals. Saving James Barnes speaks to us all – to our core of protection, our desire to care for and support each other, regardless of sex, race, creed, sexuality…"

"But for those more concerned with financial accountability, consider this: James is going to provide the scientific community at large with more knowledge about Mars and the viability of human colonisation than all previous Mars missions combined.

“I would hope that on today of all days, we would all be well to remember all that we’ve learned from James Barnes. How he is the utmost representation of NASA as an agency but also of mankind. He has been brave, strong, and resourceful. It is time for us to be the same.”
The Zephyr One is Barnes' only hope of survival. Those on Earth have worked themselves nearly to death to get it ready on time, to fill it with the life-saving food that Bucky needs. Now they just need to get it to Mars.

Kate,

_I should have written to you sooner. Don't tell my Ma that it took me so long, she'd have my ass._

So, you're the one that figured out I was still alive. You've got good eyes, Littlest Hawkeye. Rhodey said you're a fucking genius, so I'm guessing you're kinda resenting having to stalk this Martian back and forth from the Hab to the rovers and back. Sorry about that, kiddo. But I appreciate it. A lot. I'd be dead if it weren't for you, so be prepared to find yourself in possession of a big brother if I get back to Earth. Today's launch, it's all because of you.

Thank you.

“All I’m saying is, it’s a two-fer; Starbuck. Captain America is the star and Barnes is the Buck and they’re astronauts. Hell, it’s a three-fer: Barnes has never encountered a Starbucks he didn’t like – he’s practically got a coffee cup grafted onto his hand. It’s a win-win-win, come on!”

“And all I’m saying is _I don’t care._” Rhodey rolled his eyes for what felt like the millionth time that day alone. He found himself longing for the insanity that was Fitz-Simmons and Skye.

Who knew _that_ was possible.

“You _have_ to. Pepper’s being a turn-coat and supporting Stucky. Fury won’t budge on _Barnes and Noble_ so you gotta pick one.”

“I pick one and you drop it?”

“So long as you pick right.”

“Stucky.”

“Et tu Brute?!”

“That’s three to one. You’re outnumbered, we’re done. Can we go back to work now?” Rhodey gesticulated at the immense screen before them, both men watching as the launch pad gantry retracted from the probe, the forty-five minute hold on countdown coming to an end and the Ground Launch Sequencer program assuming automatic control of all activity during the final nine minutes of the sequence.

It was out of their hands.
“Traitor.”

“Work, Tony.”

"Hey, Rhodey?"

"What, Tony?!" Rhodey put down his clipboard once more. He didn’t know why he even bothered trying to go through the checklist: Tony was stressed out, and a stressed Tony was a fidgety Tony, desperate for any outlet for all his pent-up energy and to take his mind off of whatever problem had been taken out of his hands.

Idle hands truly were the Devil’s work.

"You believe in God?"

"Sure."

"You think you could uh, ask for help or whatever it is you do?"

"Gee, what a great idea. Wish I'd thought of that."

"Good man."

Tony stepped up to his station within Mission Control, impatiently rapping his knuckles against the panel's surround. In front of them, the room was abuzz as techs and controllers carried out last minute tests and checks in preparation for launch.

Flashing a grin at Rhodey, Tony slid his headset into place.

"Wake up kiddies, daddy's home!"

Glancing at the giant center screen he said, "This is your cruise director on this sunny, sunny day, and on behalf of myself and some other less important people, I'd like to welcome you to Mission Meals on Wheels. I hope you can all meet me on the cards."

“Not to lead you astray,” came a refined voice with a crisp English accent, “but you’re forgetting everything on page four dash thirty-one.”

“Jarvis, my man, be gentle with me, it’s my first time.”

“What ever was I thinking? Do you need me to hold your hand and guide you through the checklist?”

“Would you, dear?”

“I don’t think Anna would approve.”

“Tease.”

“Page four, Mr Stark. Page four.”

“We’ll come back to this later, darling. But until then, all positions please stand by to give status report when I call roll. Join me in welcoming our Launch Director.”

"Present," came the clear voice of Maria Hill, Launch Director in Florida. "CLCDR checking all stations are manned and systems ready."
The broadcast cut off for a second before Hill spoke again.

"We are still at T minus five minutes and holding. Stand by to resume countdown on my mark. 5…4…3…2…1…MARK! T-minus five minutes and counting."

“Start auxillary power units. T-COM, activate flight recorders,” Tony ordered.

“Launch vehicle flight recorders are on.”

“Arm solid rocket booster range safety safe and arm devices. All Zephyr One launch vehicle stages and instrumentation are go for launch. All positions prepare for final commit update at T-minus one minute.”

Tony watched as, on the small screen before him, the GLS successfully switched the main fuel valve heaters off. As the seconds ticked away, the GLS performed check after check of the fuel and main engines.

No red flags.

As the large red countdown clock ticked over to T-minus three minutes, Tony spoke again. “Retracting beanie cap and switching vehicle to internal power. GNC, calibrate IMUs.”

Several rows ahead of Tony, Guidance/Navigation/Control ran the calibration, the Inertial Measurement Units providing critical navigation data for the proper guidance of the probe during ascent and its short-lived orbital trajectory to ensure that it remained stable.

Nobody was taking any chances with getting Zephyr One to Barnes.

“I want a final go/no-go for launch commencement. Let's get this bird in the air. Talker?”

"Go."

"Timer."

"Go," came another reply.

"QAM1."

"Go."

Stark ran a hand through his hair, spiking the front just so, as he watched the screen as the departments counted off. Up on the screen, Zephyr One was becoming partially obscured by the clouds of water vapour that belched forth from the cooling process.

"She looks good, huh?" He whispered to Rhodey.

"Yeah, she does," he agreed.

“She’s gonna look better.”

"QAM2."

"Go."

"QAM3."
Rhodey leant against the wall to Tony's left, his own gaze captivated by the displays, the numbers dancing before him. Unlike Tony, who fed off the adrenaline of the moment and only become more alive as time went on, Rhodey himself felt drained during the whole proceedings.

He hated this part. The anticipation, the **powerlessness**, the knowledge that by the time the booster fired, there was fuck all he could do but sit back and watch.

That this probe was easily the most desperate, roughshod mission of his career wasn't helping. He liked Barnes. He was a good man. He liked the Ares 3 crew. He liked Rogers. He wanted...well, he wanted what Rogers and Barnes wanted.

This had to work. The slights of hand, and overtime and inter-mission looting…it had to work.

There was no other option.

"FSC."

"Go."

"Prop One."

"Go."

High in the VIP observation deck, Fury crossed his arms over his chest. Behind him, on the mahogany table, sat two folders.

One blue.

One red.

He'd only need one.

He hoped it was the right one.

"Prop Two."

"GO."

'PTO."

"Go."

On the opposite side of the table to Fury, Pepper stalked a path from door to wall and back again. She couldn't bear to look out at the Control room yet. Instead, her eyes tracked the coverage on the near-dozen television screens imbedded in the wall opposite the viewing window. Many of the
reporters on screen were in a room a few corridors away, watching a feed of what she could see out the glass if she cared to, while a handful were at the launch site, their cameramen panning over the massive crowds that had gathered to watch Zephyr One launch.

The world, like Pepper, was holding its breath.

"ACC."
"Go."
"LWO."
"Go."

In the JPL cafeteria, one of the largest rooms available, Bruce Banner sat surrounded by 100s of engineers, techs, diagnostic specialists, cafeteria workers...everyone who had thrown their heart and soul into getting Zephyr One complete. Many were fidgeting, others holding hands, others still praying together. It may have been little before dawn, but everyone involved was packed in.

"AFLC."
"Go."
"Guidance."
"Go."

Millions of miles, and two light minutes away, the crew of Ares 3 huddled around Natasha's station, feeling helpless and hating every second. Clint had his hands on Natasha's shoulders, one of hers resting atop his hand, fingers laced as she held on tighter than she'd ever admit.

Her other hand held firmly onto Thor, wrapped around one large forearm, his strength, his absolute radiating determination that this would work grounding her in a way she rarely needed another person to do. On her other side stood Sam, the pilot's arms crossed over his chest while he alternated between watching the screen and glancing at Steve on his left. Their Commander stood a couple steps apart from the group, eyes on the floor as he listened to Launch Control running through the sequence.

"PTC."
"Go."

"Launch Vehicle Director."

"GO."

"Houston, Launch Control is go for launch."

"Roger, Launch Control. Flight is go for launch on schedule."

"Roger. Launch on schedule."

With thirty-one seconds to go, and no technical issues reported, the ‘go’ command was issued for ‘auto sequence start’, the GLS handing off primary control of the countdown to Mission Control.

“We’re at T-minus sixteen seconds – activate the sound suppression water system.” It wasn’t visible up on the screen, even with the plethora of cameras pointed at the launch pad, but within moments hundreds of thousands of gallons of water were released from the immense tanks that sat to the north-east of the launch pad, protecting the rocket and its precious probe from being damaged by the immense acoustical energy during liftoff.

As the countdown clock reached -00:00:15, the timer controller began the verbal countdown to launch.

"Fourteen..."

"Thirteen..."

"Twelve..."

Around Cape Canaveral thousands had gathered to watch the launch, spread out for miles, sat on the ground, on their car hoods and roofs, talking and laughing amongst themselves, sharing prayers and goodwill, all willing Zephyr One to launch perfectly.

It was more people than had ever gathered for an unmanned launch, and the timer controller's voice was being pumped out over live speakers.

"Ten..."

"Nine..."

"Eight..."
“Seven…”

“Six…”

Jane Foster, lost in her calculations, hadn't noticed the exodus of colleagues towards the cafeteria, and while the world watched the launch of Zephyr One, she flipped a page in her notebook and continued her work.

"Five..."

"Four..."

"Ignition sequence start."

"Three..."

“All engines up and burning.”

The assembled public joined the countdown.

"Two..."

"One..."

The clamps securing the probe to the ground explosively released, and in a plume of fire and smoke, the booster, and its precious cargo, began to rise, speed increasing the higher it got, buoyed upon a roar of cheers.

"Lift-off of Zephyr One supply probe."

As four and a half million pounds of booster and probe soared into the air, Tony couldn't spare a
moment to enjoy the view, barking questions into his headset.

"Trim?"

"Trim is good, Flight."

"Course?"

"Course good."

"Altitude is 1000m," someone called out.

"We are at safe-abort."

*Zephyr One* had reached height that, should it be necessary, the mission could be aborted, the craft crashing into the Atlantic Ocean with no potential damage to life.

"1500 metres."

"Commencing pitch and roll manoeuvre."

“Roll program is complete at twenty-four seconds into flight. Proper alignment for burn to atmosphere has been achieved.”

‘*Just give me another eight and a half minutes,*’ Rhodey prayed. ‘*Five hundred and ten seconds. That’s all we need to get her to orbit.*’

“Throttling back main engines to 72% at forty seconds in three, two, one, mark.” The reduction of thrust was to lower the stresses on the booster and probe as it went transonic.

"Flight, be advised, we're detecting a shimmy."

Tony pressed his headset against his ear.

"Say again?"

"Probe is experiencing a slight shimmy. Onboard guidance is correcting."

Tony glanced to Rhodey, and then up to where Fury - and now Pepper - were at the observation window.

Fury nodded that he'd heard.

"Keep me advised," Tony ordered. “It may simply be because of the throttle back.”

“Roger.”

"Altitude is 2500m."

"Staging in 22 seconds."

Despite, or perhaps because of, her quick design, JPL had accounted for the possibility of catastrophic landing failure, and the grand majority of the food *Zephyr One* carried wasn’t in the form of the normal food packets. Instead, it consisted of cubed protein bar material that would still be edible even if the probe’s tumble balloons didn’t deploy and she smacked into the surface of Mars at extreme speed.
Because there were no delicate people onboard the mission, there was no cap on the acceleration that the probe could undergo and so the contents of Zephyr One underwent the sort of forces that would have killed an astronaut.

Due to the constraints of time, NASA had tested the effects of extreme G-force on the cubed protein blocks. What they hadn’t had the time for, was testing those effects in combination with a lateral vibration.

The shimmy was caused by a fuel mixture imbalance and began to rattle the payload within the probe. Zephyr One herself was held firm by multiple thick, strong bolts. But within her, the food cubes were not.

The considerable thrust of the booster compressed the food – which was at the microscopic level solid food particles suspended in a very thick vegetable oil - while the shimmy began to rattle it and the food particles were compressed to less than half their original size, while the liquid oil was not. That changed the volume ratio of solid to liquid considerably which made it act like a liquid. Which took up less space within the storage vessels. With that extra space the sludge was able to start to slosh within its containers.

The shimmy also caused an imbalanced load which shifted the sludge to the edge of its container, which only further exacerbated the problem, worsening the imbalance and increasing the force of the shimmy.

“Shimmy is getting violent,” called out the Flight Ascent Director.

“Define violent,” barked Tony.

“It’s more than we’d like, but the accelerometers caught it and recalculated the new center of mass. The guidance computer is compensating and the thrusters are counteracting it.”

“So we’re good.”

“We’re still good.”

“Tell me if that ‘still’ gets removed from that sentence.”

“Will do.”

“Flight, MMACS.”

“Go ahead, MMACS.”

“I’ve just lost four separate transducers on the left side of the vehicle. Four hydraulic return temperature transducers…two on system one and one each from two and three.”

Rhodey kicked himself away from the wall, advancing on the tense frame of his best friend and standing at his side.

“You’ve lost four hyd return temps?”

“Left outboard and inboard elevens.”

“Commonality?”

“No commonality, different systems. All within three seconds of each other. Have not responded to calibration.”
“What is the system for?” Rhodey asked, leaning close to the microphone on Tony’s headset, the other man barely resisting jerking away at his sudden appearance.

“It’s three of the four hydraulic systems. If flaps won’t respond, we’ve got seriously limited directional control.”

“Can you still point it at Mars?”

There was a pause.

“I think so.”

“Thirteen seconds till staging,” someone else called out.

“All other indications for hydraulics good?”

“All good.”

“Figure it out, MMACS.”

“Copy that.”

“Any reason to suspect controllability issues, I want you to keep control cards handy on page four,” Rhodey added.

“Copy.”

The shift of the weight of the probe didn’t spell disaster. Even through the probe had been a rush job, the systems and computers aboard were designed for worst-case scenarios and each carried out their job perfectly. The booster continued toward orbit with only minor adjustments to its course, ably correcting any issue, the fourth hydraulics system taking up the slack.

The first stage depleted its fuel, and for just a fraction of a second, the booster coasted as it jettisoned stage clamps, allowing the empty stage to fall away as the second stage engines prepared to ignite.

The brutal forces acting upon the probe and the sludge within disappeared.

Given two seconds, the free-floating sludge in the container would have re-expanded and re-solidified.

It was given a quarter of a second.

The second stage engines fired, and once more the craft was subject to incredible force as it jolted forward again. With the heavy first stage no longer causing drag with its dead weight, the acceleration was ever more profound than when the booster had first fired.

Far more than the contents could endure without issue.

Every gram of the 300kg of sludge was slammed into the back of the container, right where the weight was never meant to be.

*Zephyr One* was held in place with five large, strong bolts. But in that moment, all of the force was smashed down onto just one. It was a strong bolt. Designed to carry the entire payload’s weight on its own, if necessary.

But that was not what was being asked of it.
It was not designed to sustain impact from 300kg of freely moving cargo.

The bolt sheared.

The other four bolts had to take up the slack.

The force of the initial acceleration having passed, it was far easier for them to take up the burden of the probe.

Had Hill’s team been allowed their requisite ten days of inspections and checks, a defect in one of the bolts would have been noted long before launch. The flaw was only minor, but it would have been swapped out for a perfect replacement.

Had the load of the probe been spread evenly between the four remaining bolts, even the flawed bolt would not have been an issue.

But that was not the case.

The uneven burden within the probe left more of the brunt of the weight on the flawed bolt.

After it failed, the others followed.

One.

Two.

Three.

*Zephyr One* slipped from her supports and slammed into the hull.

“Flight! Flight, we’re getting large precession!”

“What?” On the screen and on countless panels around the room, numerous alarms began to sound, red lights flashing on an increasing number of systems, their officers and engineers adding their voices to the din.

“Tell me what’s going on!” Tony roared. Rhodey stood upright, eyes on the screen, barely breathing.

“*Zephyr One* undergoing 7G.”

“We’re getting intermittent signal loss.”

“Ascent, what the fuck is happening?!”

“All fucking hell has broken loose. The craft is spinning, bad. At least 5rps. Along the long axis with 17 degree precession.”

“Can you get it to stop the roll, end up heads-up for better communication with the satellite system?” Came an unknown voice.

“Fuck that!” Tony answered. “Will it get to orbit? Can you get to orbit?”

“I can’t talk to it at all. The intermittent failures are occurring more frequently. We’re losing systems.
“Comm!” Tony bellowed into the headset. “Get that bird back.”

“Already on it, Flight,” came the calm voice of Edwin Jarvis. “We’re doing our best. You’ll know when we know.”

“Ground telemetry reporting it at 200m low of target path.”

Jarvis’ voice returned. “We’ve lost communications with the probe.”

“Jarvis, you big kidder. Tell me you didn’t just say we’ve lost the probe.”

“Affirmative, I’m afraid. Intermittent signal from the craft, but the probe is lost.”

“Fuck!” Tony vented as he figured out what happened.

“It came loose in the bay,” he opined. “It’s rattling around in there like a bell.”

“It’s still spinning like a gyroscope, Flight.”

“Can it limp to orbit? Can anyone tell me if it’ll get to orbit?”

Rhodey glanced up at Fury, the man’s attention drawn by the movement. Rhodey shook his head. After three seconds Fury nodded, and stepped out of sight.


“Confirm LOS, Flight,” Came a voice.

“Same here, Flight.”

“Flight,” Jarvis called out. “No C-band hits. I could swap strings in the blind.”

“Do it,” Tony ordered. “Take us over.”

“Flight, commanded string one in the blind.”

“Flight, GC,” came another voice.

“Go.”

“MILA’s taking one of their antennas off into search mode.”

“Copy. Fido, Flight.”

“Go ahead, Flight.”

“Did we get any – have we gotten any tracking data at all.”

“We got a blip, but I think it was a bad data point, Flight. I do not believe it was the probe. We are in a search pattern at this time. I have no valid data at this time.”

“We got any other trackers we can go to? We’re fucking NASA, how do we not have any other trackers to go to?” Tony roared

The alarms became the only sound in the room, the red lights flashing as Stark stared in silent fury at
the screen.

“Re-establish comms?” He asked Jarvis with false calm.

“Negative,” came the answer. “We have not acquired anything, only false locks.”

“Ground?”

“Vehicle has left visual range,” came the reply.

The screen went black, large white letters ‘LOS’ appearing.

“SatCon?”

“No satellite acquisition of craft.”

“Flight,” a new voice crackled over the radio. “We’re getting reports from Admiral Robert Gonzalez aboard the USS Illiad that debris is falling from the sky. Source location matches last known location of Zephyr One.”

“Fuck!” Tony punched the panel in front of him hard enough to crack his knuckles.

Up in the observation deck, Pepper fought the tears that wanted to fall. Fury stepped up to the table and selected the red folder.

Down in Control, Tony ripped the headset off.

He’d never had to say what he had to now in his whole career.

He’d never wanted to.

“GC, Flight. Lock the doors.”

It was the signal to begin post-failure measures, standard procedure to prevent data being lost accident. He shrugged off Rhodey’s grip, flexing his abused hand and hissing, before doing it again.

“It won’t help, Tony.”

“Don’t you have an astronaut to update?”

“This wasn’t your fault.”

“I know. I also know whose fault it is.”

“Tony-”

“Go.”

With a sigh, Rhodey stepped back as Tony repositioned his headset. “Okay ladies and gentlemen, all flight controllers on the flight loop, we need to kick of FCOH contingency plan procedure. Page two, point eight, dash five.”

Clenching her jaw, Pepper checked her makeup, ensuring none of her own fear and grief were
evident, and then closed the compact with a decisive click, sliding it inside her stylish, and not at all affordable purse. She was the very picture of cool, calm, professionalism as she smoothed her pencil skirt.

“Right. Let’s get this done, shall we?”

Together, she and Fury made their way to the press room.

Minutes after Zephyr One broke up over the Atlantic, the news reached Valkyrie.

Steve stared down at his feet and stayed still for the longest time.

“It cannot be so,” Thor said. “It cannot be that Zephyr One-”

“What happens now?” Clint interjected.

Swallowing against the horrific sense of failure, Natasha patted Clint’s hand and shrugged her way clear of her station.

“This can’t be happening,” Steve’s tone hurt her to her very core. Commander Rogers was an immense man, tall and muscular, possessing an intimidating presence. But in that moment, his voice belonged to a little boy, someone lost and afraid.

Someone torn to shreds.

“Steve, stop. Steve. They’ll think of something. There has to be another way. Bucky is resourceful. NASA has rooms full of geeks like us. They’ll find a way.”

“Look how well that went this time.”

“Don’t count him out now, Steve,” Sam said. “He hasn’t given up, so you don’t get to either.”

“Right.”

Steve’s jaw ticked, his hands flexing at his sides.

“I’ll be in the gym.”

The crew watched their Commander once more leave the bridge, head bowed and shoulders slumped. The heavy bag Clint had insisted on stocking their exercise room with – much to the consternation of the ascent techs – was going to be in piss poor state by the time Steve let himself quit.

Clint, devastated and inconsolable, stepped out of the bridge and headed to his Medbay. If the past few weeks had taught him anything, it was that within hours, he was going to be wrapping the Commander’s bruised and bleeding knuckles.

Rhodey sat alone in his office, with the lights out. He’d barred the door from the near incessant flow
of people with pitying expressions and ‘we’ll get it right next time’ platitudes by the extremely expedient measure of sitting behind it, holding it closed.

The March nights still came in early and fast and though it was only the middle of the afternoon, Rhodey sat in the dark, staring out sightlessly at the stars. At the red dot where Barnes was awaiting good news.

That was never going to come.

By his side was the laptop he’d not brought himself to use. He didn’t consider himself a cowardly man, he knew he wasn’t by any standards – you didn’t fly into warzones and engage the enemy if you were a coward - but telling one man, a good man Rhodey considered a friend, that the one shot he had at survival had just exploded over the Atlantic? That wasn’t a conversation he could make himself initiate.

Which was, of course, when his laptop pinged.

[16:35]BARNES: Not to rush you, Obi Rhodes Kenobi, but you are kinda my only hope. How is the god of noxious gasses doing?
The Kimoyo Prime

Chapter Summary

NASA’s efforts have failed and it appears all hope is lost for Barnes. But there is one man that stands between Barnes and death. One King. Stark, angry and upset, also takes on an old enemy - or three - risking the wrath of Pepper to do so.

Chapter Notes

Not gonna lie, I am shit terrified of this chapter going up. It's the first real interaction with T'Challa and other Wakandans and while I read a tonne of Black Panther and some dialogue is literally lifted from some volumes, I'm still worried about their reception. I also based the Barnes Report segment off of a number of transcripts from political shows, heavily using ones with KellyAnne Conway. I felt in need of a shower after reading page after page after page of nonsense but it was helpful in shaping the Stern/Everhart/Stark/Hammer funathon

Log Entry: Sol 127

It’s my birthday today.

That occurred to me when I woke up this morning. The accident happened on what would have been the 12th of November on Earth. 2036 is a leap year so 118 days after the storm is March 10th. Convert that to the Martian Sol and you get today.

Yeah, I spent the morning doin’ fuckin’ math.

Happy birthday to me.

In a strange way, my training prepared me for this; last year I spent 90% of my birthday in solitary confinement, one of the last psych tests that Garner inflicted upon each of the AsCans left on the shortlist. We were confined to a set of rooms, no contact with the outside world, no nothin’ for a week. We were set a series of tasks tailored to our specialty, and didn’t even so much as get emails, even when ‘emergencies’ broke out in our little mini-Habs.

Even with the importance of the test, designed to determine how we coped with isolation and how we thought on our feet without our gallant leader to follow, Garner must have taken pity or something, ‘cos he freed me from jail an hour early, even delaying my debrief so my crew could throw me a party for the last sixty minutes of my birthday.

Even got to wear my pajamas to it. As parties go, it was pretty tame, especially for the AsCans – we could take the phrase ‘work hard, play hard’ pretty to heart when Phillips wasn’t looking – seeing as how there was no booze, music blasting from (thankfully) Clint’s phone, and a sheet cake hastily
purchased from the closest supermarket.

But it was fucking awesome, especially after a week of blaring alarms and talking to myself.

I’d give anything for that cake now. I did save a burrito, but no amount of telling myself it’s a Taco Bell birthday is doing very much to raise my spirits.

Back home we always had a party. Sometimes it was just a dinner with me and my girls, and sometimes it was a massive fucking blow-out party with very little memories the next morning, which given some of the stories my buddies would tell, was probably for the best.

But I was always with someone. With people that I love.

Now I’m here.

Now I’m alone.

I don’t have my plants.

I have a Hab held together with glue and duct tape.

I don’t have food coming.

I don’t have a rescue plan.

Once again I’m the only thing alive up here.

I’m completely alone again.

Fuck the presents, fuck the cake, fuck the food, fuck the music, fuck the dancing...

I want my girls. I want to be home. I want my crew.

I don’t even have a candle to make a wish with.

I guess given I already told you what my wish would be, it can’t come true anyway.

But hey, I got a burrito, so that’s somethin’.

Right?

Nestled in the heart of Birnin Zana, seated behind an immense mahogany desk, King T’Challa of Wakanda sighed as yet another assistant dropped off yet another stack of papers by his blotter, yet more of his desk’s precious real estate disappearing beneath memos and reports and briefs.

As a child, T’Challa remembered perching on that corner, legs swinging freely, his heels banging a staccato rhythm against the side, hypnotised by the flashes of sunlight that glinted off his father’s ring as the King’s pen scratched across the page, wondering at the weight of it while his mother chided him for taking up his father’s precious time.

Back then the edge of the desk had been littered with the discoveries of the day, the interesting rocks
and colourful flowers that T’Challa would present his father with after a day spent evading his minders and teachers, abandoning his books to run barefoot into the town.

Each morning the desk would be clear and polished, uncluttered and organised, clearly a challenge to T’Challa to fill his father’s day with interest and stories, all the better to distract from the boredom that adulthood surely presented. T’Chaka had greeted each gift with joy and a smile, listening intently to his son recount whatever adventure it had resulted from, all the while his pen filling page after page, documents coming and going, the towers of folders waxing and waning like the rise and fall of a nation across the wood.

The front edge had always remained free for whatever tokens T’Chaka laid there.

After T’Chaka’s death, T’Challa had discovered dozens of heavy trunks in the adjoining office, each one filled to the brim with the little trinkets, each folded in bolts of cloth or nestled carefully into a box, cards filled with T’Chaka’s neat script recounting the relevant tale his son had spun.

T’Challa’s desk held no such mementoes, the palace didn’t echo with the rapid footsteps of beloved children evading capture – and History class – and no little shadow mimicked T’Challa’s moves during training. But the King had never expected to be a man that had that life. He had always known what was expected of him – to marry well and produce an heir, had even been presented with a list of appropriate women, but a family, to hold a child…The happy life of a father, of having more to go home to than paperwork and fierce training that left his body aching and bruised, that blessed hypothetical was something that belonged to another man, one without the weight of a nation on his shoulders.

The majority of that weight seemed to be paperwork.

The joys of politics and international agreements.

Never more acutely did T’Challa feel the loss of his father than in the moments the stacks of reports and memos and briefs threatened to bury him. T’Chaka had always appeared calm, cordial, and wise, navigating his reign with dignity and honour, and never giving in to the urge to clear his desk by the expedient method of simply setting fire to the damn thing.

Reaching out for the latest set of reports from the launch site deep in the veldt, T’Challa flipped to the relevant pages. Wakanda’s space program was older, by far, than America’s own, and far more secret, until recently. But then Wakanda’s main interest hadn’t been the Moon, but rather further afield, searching for the true origin of Vibranium. Not, as many might believe, to attempt to mine further resources, but to achieve a greater understanding of the incredible element. To that end, during T’Chaka’s reign, numerous probes had been sent out into the solar system, T’Challa often accompanying his father to the launch site to watch in awe.

All without the knowledge of any other country.

Sadly the far more enjoyable days of launching a rocket as and when they all wanted were long gone. In this more civilised age, one allegedly built on trust and communication between countries rather than fear and hatred, all other nations had to be informed, not only of the date but the path, and if they felt they could get away with prying, the payload.

Unless of course you were the United States. But then so few rules that the Americans insisted upon ever seemed to apply to themselves.

That said, the Americans seemed to announce their launches anyway, televising them in many cases, but it still rankled that here he was, having to fill out form after form after form, while tap-dancing
along the thin line of refusing information and keeping concealed ‘state secrets.’

In the case of the *Kimoyo Prime* that was a considerable waste of time, especially for a King. It was an unmanned probe on a path to carry out high-orbit surveys of Venus before attaining a solar orbit between Mercury and Venus. It held no strategic or military value of any kind. It was purely for scientific advancement. Maybe that way why T’Challa found himself liking it so much.

But the original mission held little interest for T’Challa now.

Scanning the first few pages, the King was gratified to note that the probe and it’s booster was advancing perfectly on schedule, his engineers expecting nothing less from themselves and their work. Turning to the end of the report, T’Challa found the numbers he’d requested from the specialists, unwilling to trust his own knowledge on the subject alone.

His eyes widened.

Wilson,
*Romeo, Romeo, wherefore art thou, Romeo?*

Would you look at this, NASA’s unclenched and let me write to you, even if they’re chaperoning this date. Young love never came without its difficulties. Garner’s suggested that I write personal messages to each of you guys – yay, they’re easing up on keeping me from increased contact with you guys. It kinda feels like I’m off at war or somethin’ because Garner’s afraid I’ll lose touch with my humanity, or humanity in general or whatever BS he’s worried about.

I say he suggested it, but it was more like a direct order. Exactly like a direct order actually.

*Romeo and Juliet never had to put up with this shit.*

Although, they killed themselves, so maybe they ain’t the best template for our relationship. We’re more likely to kill each other.

*This should demonstrate how disconnected from humanity I truly am: even you are looking good to me. But it ain’t like I got a lot of option - Valkyrie has the nearest human beings. Well, you, Nat and Rogers are human. Jury’s still out on Barton and Thor likely actually is the God of Thunder.*

*Guess I’m the alien right now.*

Everybody’s got a gimmick.

*You know what I miss most about you? How you used to be able to talk for hours about Michael. You’re stupid in love with that kid, it’s kinda adorable. You know I clocked you once? You talked for twenty-four minutes and seventeen seconds about the little guy’s love of mashed pear and banana.*

*Almost twenty-five minutes about a kid’s love of mashed food. And you were so damn fuckin’ earnest and cute about it. Every time Marissa sent new pictures you were walking on air for days – and don’t fucking say it was ’cos of a lack of gravity. You got pictures of that kid by your bed. You’d have ’em all around your dashboard if they didn’t get in the way.*
Right now, I’d love nothing more than to hear you wax lyrical about how he only falls asleep to Itsy Bitsy spider if you sing it to him, and how you had to record it so Marissa could play it for him.

Look after that kid, make sure he grows up right. With you lookin’ out for him, he’s gonna be a great guy.

Pal, I gotta ask something else of you. I know it ain’t fair, but he listens to you. I need you to keep an eyes on Steve for me. With Zephyr One having failed...just don’t let him take the blame for that too, please. None of this was his damn fault. I don’t care if you have to tattoo it on him. Just...look after him. For me. Please?

“You’re sure? You’re sure there’s no way we could turn around and-”

“I am sorry. I have already made the calculations, Commander. Many times. I fear it is not enough. When Valkyrie looks to Mars, we make use of gravity to further speed us into our journey across the heavens. We cannot obtain the necessary speed in time, nor do we have the supplies to survive such a journey were we to try.”

Natasha hesitated as she went to walk past Thor’s quarters. On a ship – even one the size of Valkyrie –privacy wasn’t something with which any of them were acquainted anymore, with doors more suggestions to keep out, than things that actually ensured any level of confidentiality, but Natasha knew that she shouldn’t eavesdrop.

Didn’t stop her from coming to a halt just by Thor’s door.

“There’s nothing we can do?”

“I am sorry, but there is not.”

“There has to be something.”

“I shall keep trying.”

“Thank you, Thor. Just, thank you. If you think of anything. Anything at all, you’ll come to me?”

“Indeed, Commander. And the same to you. Should you have need of a friend, my door is always open to you.”

“You’re a good man.”

“As are you.”

Natasha had completely misjudged how close to the door Rogers had been while talking to the chemist, and didn’t have enough time to back away when the Commander stepped out into the hallway.

"You heard." It wasn't a question. With the way Natasha was looking at him, Steve knew that she’d heard all she needed to put 2 and 2 together.

The computer specialist nodded anyway.

“I was coming to ask him the same thing.”
“Could have saved you a trip.”

"He's smart, Rogers. If anyone had to be up there alone, he's the one most likely to survive. He's capable and he's motivated."

"Yeah, well not wanting to die does that."

"I was talking about living long enough to kiss the crap out of you."

“I know that look, Zuri. I have seen it often in our time together. Speak your mind.”

T’Challa gestured to the overstuffed chair opposite him, and Zuri took it, making it appear comically small. His enormous body was barely covered by a grey cloth that draped across his chest and wrapped around his waist to conceal his groin, displaying much battle-scared skin and war-honed musculature. His long black hair hung in tight curls to his shoulders, the man flicking his head periodically to shift it from his eyes, steadfastly refusing to tie it back. By his right leg, resting against the desk was a six foot spear, the tip razor sharp and glinting in the sunlight. Despite the deceptively relaxed pose that he had affected, T’Challa knew just how ready Zuri was to leap to his feet and defend his country.

With spear or speech, whichever was necessary.

Even against his King, if it came to that.

“My Lord King, I simply wish to know who led you to even consider such a sorry act!”

’Speaks an open mouth attached to a closed mind’, T’Challa thought, breathing deep so as not to rise to the bait.

“I am doing more than consider, Zuri, and I led my self. My father taught me long ago that if you do what is right, especially when it is not easy, you can sleep well. I have seen too much in this life, to sit back and do nothing. I have grown more and more concerned with the direction of NASA’s rescue. It is what I must do.”

“He is not one of your people, My Lord King.”

“He is a good man. I cannot allow him to die. This is not some logic puzzle. No hypothetical in a book. It is a man. A son. A friend. And he is dying. Nobody wins if we keep playing this the same way. I have made my decision.”

“The price of a throne is often heart heavy with the weight of many difficult choices.”

“You think my father would have chosen to bear that weight rather than help?”

“He would have done what was best for Wakanda and her people,” N’Gassi, T’Challa’s other special advisor, opined. N’Gassi was a study in contrast to Zuri. His hair was ivory white and closely cropped to his head. Unlike the clean-shaven Zuri, N’Gassi sported a heavy white beard, which, along with his wild eyebrows, vied for the expanses of skin left on the man’s face. The
heavy brows gave him an almost owl-like appearance, an air of wisdom that was matched by the seriousness of his gaze. His face was weathered, deep wrinkles creasing what could be seen of his cheeks and eyes, his lips cracked and dry. His physique, once powerful and more than a match for Zuri, had softened with time and age, though he still cut an imposing figure striding the halls of the royal palace.

“I believe this is what is best for our people. It is time to seek allies in this world, Zuri.” The older man frowned, his face creasing up like heavy paper at the thought. A twist of his lips and the appearance of deep lines around the advisor’s eyes lent him an air of uncharacteristic uncertainty, one T’Challa had rarely seen.

It had never boded well.

It meant the man was afraid.

“You believe this Fury can be relied upon? He answers to a government of his own. One that cannot be trusted.”

“Precisely why I shall speak only to him. Two men in a room can achieve more in an hour than a hundred men in a week.”

“You are beginning to sound like your father.”

“I have come to learn in my time upon the throne that there are worse things, N’gassi. Sitting back and allowing Barnes to die, for instance.”

“You have made up your mind,” Zuri needlessly interjected.

“I have.”

“You are as stubborn as your father.”

“Then you should know better than to waste your breath with futile attempts to sway my judgement.”

“I should. I do. We both know there is nothing anyone can say or do to change your mind.”

“And yet you will try, will you not, my friends?” T’Challa looked between his two closest advisors. “We have a chance here. A chance to save this man.”

“But how many of our own are you willing to risk were we to allow them into Wakanda?”

T’Challa sat back and laced his fingers, staring at the clear area on his desk for a few moments, then raised his eyes back to N’Gassi’s. Setting his jaw he began to explain his position.

"I feel no shame in admitting that I prefer the company of lions and leopards, than that of diplomats. They're much more trustworthy than the predators one finds in so-called civilization. But we would not be inviting the world, just a few individuals. Those that we,” T’Challa gestured between himself, Zuri, and N’Gassi, “agree upon. My country is not in the market for foreign advisors, American or otherwise. Only those whose expertise and knowledge is necessary.” The King rotated the laptop that sat before him on the desk, tapping the finger that bore the heavy ring that symbolised his power against the side, the familiar image of Barnes filling the screen.

“We all know that if NASA continues on their current path, they will once again fail. Two things will kill this man: ignorance and fear. NASA’s ignorance will only lead to further failure, and your
fear, *Wakanda’s* fear, of a greater presence in the world, will keep our technology secret, yes, but at what cost?"

“He is but one man!” Zuri roared.

“So was Alexander the Great. So was my father. One man can change the world, Zuri.” His advisor narrowed his eyes but didn’t respond. “He is one man and he is us all. We cannot bury all that is good and noble within us due to fear and the greed of others. We must lead by example, my friend. If I, if *we*, can help this family be reunited and find peace, I must do so.”

“You will risk appearing weak to your people,” N’gassi cautioned, waving away T’Challa’s proposition.

T’Challa’s response was interrupted by the arrival of coffee, to the intense gratitude of the King. He’d barely slept in days as he’d contemplated seeking out his advisors to discuss his proposal. Running hypothetical scenarios in his mind wasn’t as soporific as counting sheep.

But the respite was brief, Zuri gruffly dismissing the young man and his tray, the heavy office doors shutting silently behind him. T’Challa took another moment to collect himself, and down a considerable amount of the near-scalding beverage, before turning back to the other men.

“I was once told that to be kind, to be charitable, would make me a weak man. Worse, it would make me a weak King. That my father’s crown was not for idealists and dreamers. But they were wrong, Zuri. I must rule as I see fit to rule, and that is as a man of honour, the man my father wished for me to be. That I wish to be, and cannot if I allow Barnes to die when I know I could prevent it.”

“Is it not enough to provide them with our technology, our knowledge, what your father fought so hard to protect? Why must you allow their engineers access? Or worse, officials.” Zuri practically spat the word.

“I may wish to save the man, but even I have my limits: if I am to do this, it must be man to man. I must speak personally to Director Fury or I will not do so at all. I hate bureaucrats with delusions of adequacy and will not suffer them here. The man will die, Zuri. What kind of King, what kind of man would I be if were to sit back and ignore that? If I do not aide in their endeavour, I will have lost my way. My soul. I would be a man unworthy of being King.”

“What of Stark?” Zuri spat the name.

“He has proven himself better than his father.”

“His family are thieve-“

“His family is dead. The company dissolved. The assassin is dealt with. The matter is done.”

“There is no forgiveness for what his father did. This is a price-”

“Enough!” T’Challa’s palm slammed onto the polished desktop. “I know well enough the sins of the father. Just as you know my Lord Father settled that score.” T’Challa’s eyes narrowed. “He sent you, I believe.”

T’Challa had been little more than a child at the time, but Klaue’s enslavement of a mining community deep in the veldt, and the theft of nearly a hundred pounds of Vibranium had rocked Wakanda. The rare metal was the country’s major resource, allowing Wakanda to become one of the most economically stable nations on Earth – the mineral being sold at $10,000 a gram – with the properties of the rare metal aiding the country to become the most technologically advanced in the
Not that the majority of the world was aware of the fact.

T’Challa’s father, T’Chaka, like the Kings before him, kept Wakanda safe by keeping it isolated, only trading with the outside world when necessary. Countless attempts of colonisation and annexation had left the country’s leaders wary and untrusting, their armies second to none. Greed, however, was a powerful motivator and there were always those unscrupulous, and suicidal, enough to attempt to steal Vibranium when their attempts to purchase it were rebuffed.

Two such men were Howard Stark and Obadiah Stane. Their request, on behalf of Stark Industries, for an unprecedented 1,000 pounds had been refused fifteen times before SI ceased its attempts. Rather than admit defeat, the pair had turned to Ulysses Klaue, a Dutch black-market arms dealer and assassin for hire.

Klaue had already been a marked man, quite literally. He’d been caught once before, on a lesser charge, and T’Chaka had been merciful, personally holding the branding iron to the mercenary’s neck to brand him with the Wakandan symbol for thief, but allowing him to leave with his life.

Stane had offered Klaue an obscene amount of money to get what SI wanted and Klaue had been more than happy to provide it. When his small operation had been discovered, Klaue had fled with several hundreds of pounds of Vibranium, but without his left arm, the King having relieved him of it during the battle to free his enslaved people. That was where T’Chaka’s mercy ended. When word had gotten to Wakanda that Klaue, either due to greed or a thirst for vengeance, had accepted a contract on the King’s life, purportedly taken out by SI, T’Chaka had hunted down his would-be assassin and sent him to his maker. Zuri had been dispatched to deal with Stane and Stark, with Maria being caught up in the crossfire, a mourned casualty of war.

“No more discourse. No more deliberation. No more excuses. Wakanda must change. My father believed that, even with all that occurred during his reign, and I have come to see it is the truth: there must be a change. You must release your need for vengeance, my friend. I will no longer let it consume me. But I cannot forge this new path by myself. This is our journey, but it is not ours only. We must ensure we aide others upon their path. We cannot walk alone any longer.”

[09:23]BARNES: Uh, can I ask a favour?
[09:26]JPL: Sure, what do you need?
[09:40]BARNES: Can it be you, Rhodey? I know protocol is that if we die up here Director Fury informs our family, but I don’t know him. I know you. Can it be you? If something happens to me, if I don’t make it, can it be you?
[09:41]BARNES: Hope you don’t mind me calling you Rhodey.
[09:55]JPL: Yeah, Barnes. I can do it. If you want me to.
[10:12]BARNES: Thanks. If you have to…can you tell my sister first? I know you’re supposed to tell my parent, my ma, first but can you tell Becca? I think Ma will take it better from her.
[10:25]JPL: It’s not going to come to that. But if it does, I’ll speak to Becca first.
As the doors to T’Challa’s private quarters closed behind him, and the King was shielded at last from prying eyes, T’Challa’s shoulders slumped, his pace slowing as he trudged down the obscenely long hallway. His every muscle ached, including more than a few that he was more intimately acquainted with than he’d prefer at that time.

His throne might be heredity, but he’d still had to earn it, and keep earning it every day. Wakanda was made up of eighteen united tribes, and any citizen of Wakanda had the right to challenge the ruler in a combat ceremony to win the throne. N’Jadaka had certainly been intent on ensuring that the King remained worthy of his position, never letting up once he had T’Challa in the large gymnasium, attack after attack being thrown at him, the other man never pulling a punch or impact.

“Hello.”

T’Challa only just suppressed his response to leap into the air, the aborted move turning into something resembling a bunny hop as he twisted around, a smile spreading across his face at the sight of the Queen Consort.

“Hello.” Ororo’s eyes twinkled with barely-suppressed laughter.

“I should have you clap your hands around me,” T’Challa groused.

“Only if you finally agree to a collar and bell.”

T’Challa’s eyebrows rose, and Ororo winked at him, letting her hips sway as she stalked toward him.

“Have you missed me?” She purred.

“That depends. If you have returned because you were worried about me and a decision I have made, then perhaps not.”

Ororo came to a stop before him, one hand rising to cup her husband’s cheek. “Never. I missed my husband. Has he missed me?”

The King’s expression softened. “Of course.” He ducked down to press a kiss to her lips, two more to each cheek, drinking in the warm scent of her skin after so many weeks apart, taking in the inexplicable aroma of ozone and the crackle of lightning that always lingered.

“Are you remembering to eat?” The Queen asked when they parted.

T’Challa chuckled, a grin splitting his handsome face.

“You did not truly ask me that.”

“I’m not hearing a yes.”

“I have people to remind me to do that.”

“That is still not a yes.”

“Yes,” T’Challa sighed. “I am eating.”

“Not enough.”
“Ororo.”

“Yes?” She asked sweetly.

T’Challa shook his head, hands curling around her hips. “I am glad you are home.”

Ororo huffed and smiled. “That is not what you were going to say, but you are sweet to try.” She patted the side of his face gently, and smiled as he swayed into her. Just as his lips were about to meet hers, Ororo stepped backwards, amused when her husband tried to follow her and the usually sure-footed man stumbled.

“You are a good man. With a good heart. It is hard for so good a man to be King.”

In spite of the joy at seeing his love home and once more in his arms, T’Challa wasn’t blind to the real reason the Queen had truncated her trip.

“Zuri called you.” It wasn’t a question, an Ororo didn’t bother to deny it.

“He thought you might feel a little…hmmm…animated.”

“You are here to distract me, dissuade me, from my path.”

“Have I been able to do so ever in the past?”

“Yet it has never stopped you from trying?”

“Are you angry I returned?”

“Furious.” His tone belied his words, as did his gentle smile.

“I missed you too, my love.” The Queen rocked onto her toes and brushed a kiss to the corner of her husband’s mouth, turning her face away when T’Challa chased her lips, stepping back out of his hold.

“Walk me through it.”

“Hmmm?”

“Explain to my why you need to do this. I would have aided you earlier had I known what you were thinking.”

“Ororo-”

“Walk me through it, T’Challa.” Ororo crossed her arms over her chest, her chin jutting out stubbornly, a tree planted with roots so deep and strong, it would never be moved.

T’Challa gave in with all the grace he could muster.

“Four hundred and nineteen days.”

Ororo blinked rapidly several times, brow furrowing.

“I beg your pardon?”

T’Challa balled up the sweaty towel in his hands and hurled it across the room to skitter into the bathroom before dropping into a comfortable chair.
“With minimal adjustments, the Kimoyo Prime could reach Mars in 419 days. With a far greater chance of success than their current plan.”

“You—you’re sure?”

T’Challa nodded again.

In the silence, T’Challa could hear how busy the streets of the city still were, even at 3 a.m. The sound of the traffic was a dull buzz, cut through by the howl of a dog staking its claim on some alleyway, the occasional shriek of laughter from a late night reveller finding their way home from one of the many bars. T’Challa drank it all in as he laid his head back against the seat and looked tiredly up at his wife.

“Have I thanked you for coming home?” He asked.

“You haven’t, no.” Ororo stepped over to where T’Challa sat, perching on an armrest and draping her legs over her husband’s lap, propping her feet up on the opposite arm. Leaning down she pressed a kiss to T’Challa’s cheek, loving the feel of his rough stubble against her lips.

“You are welcome, but you are getting off topic. Take me through it.”

T’Challa watched her toes tighten and relax against the wood, like a giant cat kneading its bed and began to talk. How Kimoyo Prime was scheduled to be finished before Zephyr Two and wouldn’t be a rush job; how it was too heavy to reach Mars but by removing the hefty heat shielding and scanning technology, the probe could be amended to send 941kg of supplies; how the tech was a closely guarded secret and NASA didn’t know about it so if Wakanda did nothing, nobody would know; how it could be used to save a man’s life.

How Zuri and N’Gassi were concerned as to an alliance with the outside world.

“And you?” Ororo asked. T’Challa could hear the genuine question in her tone, her words utterly devoid of judgement or persuasion. “What do you think of an alliance?”

“I think Barnes was dead. He seems less dead now. What motivates a man who has known both long life and absolute death? How can I know the answer unless we aid in his return? I think the living are not yet done with James Barnes. I think we are his only chance. I think we must try.”

“What of the cost?”

“We would never come to an agreement with the United States government to reimburse us for the rocket, certainly not with the quantity of Vibranium used. But that is immaterial: we have the means to replace the Kimoyo Prime a thousand times over.”

“A hell of a gift.”

T’Challa barked out a laugh. To another country simply giving away a million dollar rocket would be unthinkable, but the issue of the monetary cost of such an action hadn’t even crossed his mind.

“What would the United States be granting Wakanda in such an alliance?”

T’Challa wrapped one large hand around one of Ororo’s ankles, thumb strumming over the deceptively delicate joint, marvelling in the softness of his wife’s skin, in her warmth.

In her strength.
“Freedom.”

“Freedom?”

“From interference.”

“Your father dreamed of a world where Wakanda and the rest of the world could live in harmony… one where Wakanda need not hide away in order to protect ourselves. You have worked hard to keep that dream alive, but that final step is always the most terrifying. What matters now is that Barnes is alive, and we have the ability to improve his chances to continue to do so. If he is able to fight and endure, what right have we to do any less?”

“The question is, can they be trusted?”

“The real question, the one that would haunt you in your darkest hours, is could you live with yourself if you do nothing?”

When Fury had heard who was on the line for him, he’d immediately shut and locked his office door, picking up the phone and greeted the King of Wakanda. When the voice at the other end of the line stopped talking, he asked for a moment’s time, allowing himself a minute to process the information he’d just received. It took only a further fifteen seconds to make up his mind.

“Yes.”

Natasha,

Greetings to my favourite Soviet Super Spy. Have I said thank you to you yet that you had to leave your laptop here? Without your nerd apparel I’d never have managed to get Pathfinder to talk to the rover. How the fuck do you do all that shit? You’re such a nerd! You could probably do that shit at like twelve, and I had to have my hand held the entire time! For someone so effortlessly cool – and I’m denyin’ I said that to the day I die – you are such a nerd. See, Romanoff. You act like you’re a normal person, but you’re not. You’re clearly not, and I’m here to let you know I’m on to you young lady. You’re not quite as cool as me, but hey, that ain’t your fault Nat. It takes a certain innate something that you just don’t possess. But you can aspire to my level of coolness that can only be known as…’Botanist Cool.’

I’m guessing that you guys probably could do with a laugh so here’s my attempt: do you know that when you were selected, Rogers took us all aside and read us the riot act? We hit on you and we’re gone. I’m tellin’ ya this because I gotta ask, Clint made his move yet? If he hasn’t, get on it. Get on him if needs be. Consider me a cautionary tale to go after what you want. What’s Steve gonna do? Throw you outta the airlock?

Look after Hawkeye, alright? And let him look after you.
Bruce was experiencing some serious déjà vu. He hadn’t seen his bed in months and had only a vague memory of what sleep was, so for a heartbeat he wondered if he was hallucinating the assembled JPL department heads sitting before him.

How could they be back here again?

“By now you’ve all heard about the *Kimoyo Prime*, you know that Wakanda is offering us another shot. They’d be giving up a lot of their own work for this and you know how that feels. If a deal can be struck, we gotta be ready, we gotta honour what they’re sacrificing for us.

“You know how little time we had with *Zephyr One*? We made history with making her in 62 days. That’s going to seem like an aeon in comparison to the 28 days we have for this. Even taking only 419 days to get to the site, the probe will still not reach Barnes until 6 weeks after he runs out of food and Cho is trying to figure out ways to stretch his food further.”

He looked out at a sea of terrified faces.

“We’re going to be making the roughest, simplest, most stripped down craft that has ever been shot to Mars. And do you know how?”

“I’m afraid to ask,” said the man to his right, Jasper Sitwell.

“No landing system.”

“I beg your pardon?”

“None. In-flight guidance to ensure course correction but once it gets to Mars, it’s gonna crash.”

“Are you *insane*?”

“At this juncture? Yes. And rapidly accelerating past the insanity event horizon.”

“It’ll be at-”

“300 meters a second, ideally.”

“What good is a buried pancake going to do Barnes?”

“You know the good thing about the food we send up?”

“It’s all tasteless rather than tasting bad?”

“It survives just about anything.”

“But will he survive it?” Jasper muttered to himself.

“You’re going to divide into two teams.” Bruce clicked the mouse on laptop beside him, an image projecting up onto the wall behind him.

“Team One: your focus on outer shell, guidance and thrusters. Everything that we need to get to Mars. I want it fast but I want it safe. High-gain radio to communicate with it, satellite navigational software, aerosol propellant.
“Team Two: your job is payload. Find a way to contain the food when it hits. It does need to be edible.”

“It’s not edible to start with,” mumbled someone from amid the sea of half-asleep colleagues.

“We have 941kg to work with and according to the numbers Cho is running, we need at least 300kg of that to be food only.” Bruce slammed his hands down onto the table causing everyone around him to jump, and one young guy to shriek. He smirked.

“Sorry. That was mean. But effective. Wake up and get going.”

The sun was low and pale as it just peeked over the horizon, bathing the entire complex in a weak yellow glow as Kate pressed her face against the window in Pepper’s office to watch proceedings. She spared a thought for the peons that weren’t lucky enough to have friends in literal high places and instead were having to settle for watching one of the myriad screens Stark – before he’d been sent on a man-date with Bruce at JPL to keep him as far away from King T’Challa as possible until the ink on the contract was dry - had set up in the canteen and break rooms.

Speaking of crowds, the crush of reporters and cameras was, if anything, even larger than in the days after it’d been announced that Barnes was alive. No matter that it was 4am and that everyone involved had played the day’s meeting close to the chest, there was the press, all well-coiffed and impeccably dressed, most already talking into their cameras as their assistants craned their necks to try and spot the motorcade.

“Spoiler alert,” Kate mumbled, “he’s not here yet.”

‘Mores the pity.’

“Huh?” Over on the couch, a barely conscious Darcy flipped a hand in her general direction.

“Why aren’t you more excited?” Kate asked the lump of covers masquerading as Jane’s assistant.

“Impf et for.”

“What?”

A hand came up to push the blanket away from Darcy’s face.

“I’ve met Thor.”

Kate frowned and turned away from the window, resting her hip on the sill.

“What the hell does that have to do with the price of Vibranium?”

“When you’ve met a god, what is a king?” So saying, she flipped the blanket back over her face to shut out the sun, weak as it was. She’d been working ’round the clock with Jane for weeks now, with no clue as to what the hell the numbers she was inputting to simulation after simulation actually meant, but trusting in her boss’ genius. Jane hadn’t left the building in days and so neither had Darcy, but while Jane seemed capable of surviving on a steady diet of science and Red Bull, Darcy was a mere human that periodically required sleep, slinking off at odd hours to find a quiet corner or
a key piece of soft furnishing to pass out on for a few hours, returning to Jane’s side fresh as a wilted daisy.

“But what a king!”

Kate turned back just in time to witness four cars turn into the complex, sleek black numbers that wouldn’t have looked out of place in a Presidential motorcade. After years of her father receiving death threats and abduction attempts, Kate could identify an armoured vehicle in three seconds or less, and whatever was weighing down the chassis of the vehicles pulling up to the steps would have made a tank think twice.

Even from several floors up, Kate swore she could hear a murmur pass through the crush of reporters as the doors on the lead and rear cars opened and eight of the deadliest looking women Kate had ever seen emerged.

Make that eight of the most armed deadly women Kate had ever seen. To think, she’d spent an hour bitching and complaining to an unconscious Darcy how unfair it was that she wasn’t going to get to really see King T’Challa, but watching those sleek, dangerous women make their way to the second car, Kate was supremely glad to be well out of their way.

A concept apparently foreign to Christine Everhart. In a daring display in which she demonstrated zero self-preservation instinct, or common sense, the reporter muscled her way to the front of the barriers erected around the steps, and in a feat of athleticism – and incredible tailoring prowess that her skirt remained intact – she vaulted the obstruction.

Her cameraman, however, didn’t even bother to pretend to try to follow, instead leaning over the railing as far as he could without falling into the lion’s mouth.

Kate would have sworn the temperature across the entirety of Texas dropped by ten degrees, and she could practically smell the oncoming bloodbath.

“Shit it going to go down.”

Everhart got two strides before three of the bodyguards had her surrounded, impeding her progress entirely, the remaining five circling the car that seemingly contained the Wakandan king.

“Huh. Hey, Darce?” Kate reached out with her foot and prodded the lump on the couch.

“G’way.”

“Darce!”

A rustle of fabric preceded an annoyed grunt.

“Everhart versus bodyguards.”

Darcy sat bolt upright, fought to get her legs free from the blanket and moved to stand, falling to the floor with an undignified squeal.

“What’s happening?” She asked, rolling this way and that to get free, finally giving up and adopting a part-crawl, part shuffle, part dance manoeuvre to cross the few feet to the wall, her brightly manicured nails gripping onto the sill to haul herself to her knees.

“Wouldya look at that.” A huge grin spread across Darcy’s face and Kate snorted at her friend’s glee.
“Told ya.”

Below them, Everhart was making her stand against the bodyguards, the Dora Milaje according to the memo that Pepper had sent 'round when the meeting had been verified, jutting out her jaw as she tried to stare down the woman that was inches from her face. The Wakandan warrior was tall and slender, her bare arms visibly toned and defined even in the dim light, her tight knee-length dress doing nothing to hide her athleticism or strength.

Kate would pay good money not to have to go up against her.

“She doesn’t stand a chance,” Darcy opined as she pulled herself up to her feet for a better view.

“I think she’s going to die,” Kate agreed cheerfully.

Leaning closer to the window, her breath fogging up the glass, Darcy began to narrate the scene before them.

“Move,” she intoned as the bodyguard stepped even closer, towering over the reporter, crowding into her space, one hand closing around Christine’s upper arm, the microphone in the reporter’s hand wobbling in her grasp. A ring-like object appeared in the other hand of the bodyguard, sunlight glinting off the metal.

“Where the futz did that thing come from?” Kate mumbled, watching as the guard brought her arm back a bit, the threat more than obvious that should Christine move in any way that she found offensive, the – probably sharp – weapon would be sliced forward, cutting through Versace and skin as easy as air.

“Move, or you will be moved,” Darcy continued, and Kate would have sworn on her mother’s grave that it was precisely what was being said.

There was no way that from the distance Kate could see Everhart begin to tremble, but she liked to imagine she could all the same. That said, she had to concede a certain grudging respect for the reporter – Kate felt no shame in admitting that facing down a member of the Dora Milaje would have left her pissing herself, let alone standing in the midst of group, but there Everhart was, refusing to back down, her head held high, jaw tight and determined as she twisted her arm free.

The staring contest continued for a further five seconds before, having made her point, Everhart wisely stepped back and to the side, making her way back to the barrier and her cameraman, never taking her eyes off the bodyguards or turning her back on them.

A moment later, the rear door to the second car opened, and one of the hottest men Kate had ever seen stepped out, taking a moment to adjust his suit jacket and doing up the top button. He gazed calmly out at the now clamouring crowd of reporters, ignoring the flashes of bulbs and the microphones being thrust over the barrier as Fury emerged from the main door and made his way down the steps.

Kate hadn’t been privy to any of the real details, instead mired in the fourth-hand gossip and but even she knew Fury had been working around the clock to get all their ducks in a row that would encourage Wakanda to hand over their precious rocket. There wasn’t a favour in Washington that he hadn’t called in, either to get the deal approved, or to keep the likes of Stern out of negotiations, and he’d been pulling so many strings he doubled as a loom.

But to look at him, his Sunday-best eyepatch on, all dolled up in Brooks Brothers finest, back straight as a poker,
The two men greeted each other with a cordial, if stiff, handshake, and with the Dora Milaje once more surrounding the King, the group made its way up the steps.

“Well, *damn.*” Darcy whistled.

“What is a king to a god?”

“What a King.”

“Thank you,” Kate grinned, before a huge yawn had her tilting her head back, Darcy elbowing her in the chest when she yawned too. Catching sight of the clock over Pepper’s desk, Darcy groaned.

“Ugh, this is a disgusting time to be awake.” Kate watched as Darcy bent to retrieve the blanket still wrapped around her feet, and shook it out, the young assistant whooping in glee at the half a Snickers bar that fell from its folds.

“Think it’ll work?” She asked.

“The Snickers or the rocket?” Darcy asked, peeling back the wrapping and picking off a clump of fuzz before taking a bite, holding the rest out to Kate who, after a moment’s hesitation, took the offered candy and stuffed it into her mouth.

“Either. Both.”

"The Snickers, hell yeah. The rocket? Asking the wrong genius, Kemosabe. You want the ‘*Ten Best Ways To Taze To Success*’, I'm your girl. Firing tons of metal into space? Might as well ask me to stop all this awesome." Darcy gestured vaguely at her body as she leaned against the sill to watch as the last of the Wakandans made their way up the steps and the cars pulled away.

"Next time? Lie to me."

Rocking back on her heels, Darcy turned to Kate and frowned, taking in the worried expression and the tightness of her friend's shoulders.

"If anyone can make this work, King Hottie is your guy."

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[14:04]JPL: I want to help you, Barnes, to support you, in whatever way you need. But you make it hard when you won’t talk to me.

[14:20]:BARNES: No offense, doc, but I ain’t exactly gonna bare my soul in a session shared around the globe.

[14:25]BARNES: But you want me to talk? Okay, how long are you going to maintain the whole not letting me send messages to Steve bullshit?

[14:53]JPL: You know these messages are strictly confidential. You want to talk to Valkyrie?

[15:08]BARNES: SERIOUSLY?? YOU’VE BEEN KEEPING ME FROM SENDING HIM MESSAGES AND NOW IT’S ALL ‘do you want to?’ GARNER, SO HELP ME GOD GIVE RHODEY BACK HIS COMPUTER.

[15:17]JPL: I needed to see if you would ask.

[15:29]BARNES: GIVE RHODEY BACK HIS FUCKING LAPTOP!
Jane Foster had been fidgeting in front of Rhodey’s door for easily five minutes, slim fingers twisting and releasing just at the edge of his vision before he finished the report in front of him.

Rhodey had a rule, a hard rule; if he had his ear buds in, he was only to be disturbed in cases or fire, flood or imminent death. Of course that last one was now a grey area given that Barnes was in constant danger of dying every moment.

It just happened that today Rhodey had almost no patience for anything, least of all nervous doctors dancing about in front of his office like a toddler that needed a bathroom break.

"What?" He barked around minute ten when she still had made no move to enter his office.

“Uh, Rhodey?” Jane’s head peeked into Rhodey’s office, a frown appearing when the young woman didn’t find him at his desk.

“Over here.”

Foster banged her head on the doorjamb trying to twist around to see him in the chair in the corner.

“You alright?”

“Fine. Can I come in?”

“Sure, Foster. What can I do for you?” He'd always had a soft spot for the pint-sized astrophysicist. She was extraordinarily gifted, and since losing out to her husband for a seat on Ares 3, had only doubled down harder, proving her worth time and again. She might not know it yet, but she was one of the top ten picks of most of NASA to get into Ares 4.

If she did, she’d be the first Nobel Prize nominee on Mars.

“You know Erik Selvig, down in astrodynamics?”

“Not well, but yes. Wasn’t he the guy that Thor got drop-dead drunk the night the crew list was announced?”

“That’s him.”

“He have a problem?” Rhodey liked to pride himself that his employees could come to him if they were experiencing problems, but maybe Selvig hadn’t wanted to cause any fuss, Jane deciding on her own to come to him.

“Hmm? What?” Jane had her head down as she thumbed through the pages she held, a frown marring her forehead as she looked up.
“Is Selvig okay?” Rhodey asked again. Largely because he couldn’t take another day where someone was threatening to file an official complaint about Selvig working without pants.

Four times was enough.

“Oh yes, why are you asking?”

Rhodey ground his mental processes to a halt, downshifted and tried to remember that Jane was someone that worked on a whole other level than him. Small talk and social graces were not her strong suit.

“How can I help you today, with Erik?”

“He was my mentor, and he asked for my help on the Zephyr One trajectory. After we were done with that, I came up with another option.” She dumped the sheaf of papers in her arms onto the floor and squatted down, rifling through them before handing a couple stapled sheets over.

“Here’s the summary.” A second later, the page was ripped back out of his hand, leaving an impressive number of paper-cuts behind.

“No it isn’t, this is the – no wait. That’s not it…Darcy swore she’d…I don’t know where she is…I have it here. Just wait-”

“Doctor Foster?”

“Yes?” Jane didn’t look up from the papers she was skimming through.

“How about you tell me about it instead.”

“But… I worked so hard on that summary. And I know it’s here somewhere. I almost stapled my hand when I put it together and I made certain to put it on top. It has to be here, and it’s a very concise summary, it really says everything that needs-”

“A summary of what, Doctor Foster?” This was not how he’d expected his afternoon to go and he was rapidly shifting from confused to vaguely irritated.

“How to save Barnes!” She said it as though it were obvious why she would be in his office. Which, Rhodey supposed, it should have been. It was the reason why 95% of the people who came through his door came to see him.

“We secured the Wakandan-”

“The Kimoyo Prime project? Won’t work. You can’t make a Mars probe in less than a month. Couldn’t do it in two.”

“Easy, Foster. That’s some dangerous quicksand you’re tap-dancing on.”

“Oh, I’m sorry. Was that rude? Darcy says I can be rude. I don’t mean to be, I just…Sometimes I can be rude. But it’s simply a point of fact – Zephyr One was rushed, and she failed. Do that again, and expect anything but the same result, and you would be insane. The Kimoyo Prime is critical to my idea but not as a Mars probe. It won’t work, Rhodey, and you know it.”

He did. That was the problem. Rudely blunt or not, Jane was right. Why was it any more likely to work a second time around with even less time for checks and inspections?

“Assuming, and I’m not confirming anything, that were true, why would your idea be more likely to
“succeed?”

“For a start, it’d reach him by Sol 459.”

“You’re shitting me?!”

“I don’t make jokes about science. Darcy would say I never make jokes ever, but that’s totally untrue, there was that joke last month about the frog and the flute…or was it a clarinet?”

“Have you told anyone else about this? Selvig?”

“No. I wanted to come to you.”

“Keep it to yourself. Let me look this over.”

Thor, what the fuck inspired you to pursue chemistry? It’s a horrible subject and now NASA has me playing Thor Jr, you can keep it all to yourself. Now I’ve got nothing but time, I’ve become Bucky Barnes One Man Science Band! I can’t even rub my stomach and tap my head, so fuck knows how NASA thinks I’m gonna go around with a drum on my back, cymbals between my knees and a harmonica, but I’m a good little performing monkey. I do nothing all day except fuck around with test tubes and soil and pH levels and okay, sure, I’d have been doing some of that myself anyway, but it’s not the same when I’m having to follow your notes. Except wait, I can’t follow your notes. NASA had to send me new ones. Dude, I’m smart, but Norwegian isn’t among my skill-set. Chemistry in Norwegian is way outside my realm of expertise. At least it’s helping me sleep at night. I think a’ the experiments I have to do for you the next day and I’m out like a light.

I survive this, can you make me that eggy, meatball thing? Kind of wish I’d tried it now. I’m sure that if I pair it with a good beer, it’ll be great! When you get home, have a plate for me!

“Am I supposed to know what Project Elrond is?” Pepper asked as she came into the doorway of Rhodey’s office.

“I had to make something up,” he defended himself.

“Elrond? Is it an anagram or something?” A frown creased her perfectly made-up brow. “Or is it something dirty? Because I asked Darcy and she laughed at me.”

“Pepper, you might be the most beautiful, capable, qualified and accomplished woman I have ever met, but you have been failed in many ways.” Tony stepped up behind his partner, rocking onto his tiptoes to see over her shoulder as Pepper towered over nearly everyone in her terrifying heels.

“Oh?”

“Is this the headquarters to Project Elrond?” Bruce whispered from behind Tony, the three of them standing in Rhodey’s doorway, Pepper refusing to move until someone told her what the hell Elrond meant.
“You got the special handshake?” Tony asked.

“No, but I did find this really cool ring, think that’d get me entrance?”

“You’re short and hairy enough.”

“Coming from the man with lifts in his shoes.”

“Banner!” Tony mock-shrieked. “That is privileged information!”

“Known only to millions around the world,” Rhodey drawled.

“El-rond,” Pepper asked again.

“We’re making a momentous decision, what else is it supposed to be called,” Rhodey said.

“What?!”

“The Council of Elrond is from the Lord Of The Rings decides what to do with the One Ring. And with you in the way, One does not simply walk into Rhodey’s Office.”

Pepper turned around in the doorway, looking down at her partner.

“Oh, like that’s the nerdiest thing you’ve ever heard me say,” Tony said, placing his hands on Pepper’s hips to guide her out of his way so he could enter the room.

“Did any of you get laid in high school?” Fury asked as he swept in, leather duster fluttering behind him causing him to look like a really angry butterfly going through an emo stage.

“If you answer that with a smug expression on your face Anthony Stark…” Pepper slapped a hand over Tony’s mouth.

“Why are we here, Rhodey?” Fury asked, taking over the comfortable chair behind Rhodey’s desk.

“Wait, he doesn’t know either? Now I don’t feel so bad. I thought my Rhodey didn’t love me anymore.”

“Who says I ever did?” Rhodey flashed a smile at his best friend who flipped him off in response.

“I thought you were worried he’d left you for Banner?” Fury couldn’t resist shit stirring.

“Left who for what now?” Bruce glanced back and forth between Rhodes and Stark, a look of deep concern on his face.

“I open my heart to you, sob out my soul and you betray my trust like that?!” Tony wiped away a fake tear as he clutched at his chest with his other hand. “Nicholas J. Fury, my momma always warned me about men like you.”

Ignoring him, Rhodey tapped the piled of papers on Fury’s left. “Jane Foster has found a way to get to Barnes by Sol 549.”

There was complete silence for a minute as the other four people in the room stared at him in shock, Tony’s hand still over his heart, his fingers clawing into his sweater, only this time in genuine shock.

“You’re fucking me.”
“God, I hope not,” Tony mumbled, elbowed by Bruce and Pepper.

“Nope.”

“Bullshit,” Fury declared. “Even the Wakandans couldn’t get it anywhere near 419 days.”

“Not the way we’re currently going about it, no.”

“How?” Tony asked.

“Valkyrie.”

“Huh?”

“Zephyr One wouldn’t even have gotten there for almost forty days after that.”

“Zephyr One was a point-thrust craft. Valkyrie has constant-acceleration because of the ion engines. Valkyrie also has a hell of a lot of acceleration right now. When they get closer to Earth they actually have to decelerate for over a month just to slow down to Earth’s speed.”

“Fuck me. Sol 549. It’d solve everything.”

“It’s the coolest thing I’ve ever seen,” Rhodey said.

“I’m hurt. I’ve shown you multiple cool things. How could you say that to me?”

“Tony, you make it so easy for me to say things like that.”

“Pepper would never say something like that to me. You know why? She’s a lady, she’s-”

“Desperate for you to shut up.” It was said with a soft smile, but Pepper’s words were edged with steel.

“Is it safe?”

“It’s space, Pep, safe is a very difficult term to define.” She levelled Tony with an unamused expression. He mimed pulling a zipper across his mouth.

Yeah, that’d last.

“Will it work?” Fury asked.

“Theoretically, yes.”

“Walk me through it.”

“If they were to carry out this ‘Avengers Initiative’.”

“Snappy title.”

“-they’d start to accelerate right away, preserving the velocity they have and gain more. They’d not intercept with Earth at all, just come close enough to use a gravity assist to adjust the course. We’d send a re-supply probe to them at that time.

“Then they’d accelerate towards Mars, arriving at Sol 549. It’s a Mars flyby, they’d be going too fast to enter orbit. The rest of the manoeuvre turns them around and they’re back at Earth 211 days after Mars.”
“If it’s a flyby,” Bruce asked, “what good is it?”

“Barnes would have to get to Schiaparelli and modify the MAV already there.”

“You want Barnes to travel 3,200km?!”

“It’s not totally insane. He went 1500km to get to Pathfinder.”

“Over flat terrain. He’d have to take the Oxygenator, the Water Reclaimer…”

“It’d be dangerous and difficult, but we could talk him through the modifications to further trick out the rover and get the MAV to escape velocity.”

“Don’t want a lot do you?” Fury asked. “You want the MAV to-”

“Escape Mars gravity entirely, yes. Drop weight…and it’d do it. I can get rooms of people to figure it out.”

“And the Kimoyo Prime would supply the booster for the re-supply?”

“Yes, shooting for a near-Earth rendezvous. It’s a hell of a lot easier than getting a probe to Mars. And it’s faster. Even if we launch in under a month, Barnes would be without food for six weeks by the time it arrived. He’d likely already be dead.”

“So that’s our options: Ares 4 pick-up and a pre-supply of food which he might not survive long enough to see, or Valkyrie flyby. Both need the booster and only one can have it.”

“We have to pick one.”

“What about the crew? It’d add almost 2 years to their mission; would they do it?”

“In a heartbeat,” the others replied instantly.

“Which is why Rhodey called us in here,” Tony said with a disapproving tone, “rather than heading to CAPCOM and speaking with Rogers. He wants us to decide. This is the same bullshit from when we kept his survival a secret.”

“We shouldn’t put them in the position,” Bruce began only to be interrupted.

“Cap is more than capable of making difficult decisions. That’s why he’s the boss. You just don’t want to tell them about the rescue option.”

“We already have a rescue option,” Fury said, raising a hand. “This is just another option.”

“Do you really think the crash-lander is going to work? Anyone?Seriously, anyone? Raise your hands if you think it’s going to-”

“Enough.” Fury ordered.

“Can Valkyrie remain mission stable for the extra time?” Rhodey asked Bruce.

“There’s no reason to believe it shouldn’t. They’re trained to fix the problems that crop up and Valkyrie was designed to carry out five Ares missions; she’s only half way through that.”

“It’s the most important thing that’s ever been built. We can’t make another. Something fucks up and the crew dies and Ares missions go with it.” Fury sighed.
“By which you mean expensive, rather than important.” Tony snorted.

“Losing the crew would be a disaster but we wouldn’t lose Valkyrie. We can remotely control her from here. As long as the reactor and engines work, we can bring her home.”

“This has to be a discussion about what is safest. Are we willing to risk one life or five?”

“Space travel is dangerous. We can’t make this about what’s safest.”

“Tony is right, Fury. The crash lander may only risk one life, but it’s incredibly high risk. It could miss Mars, it could re-enter wrong or it could break up over the Atlantic.”

“And the Initiative is more likely to work?”

“Much. With the probe being near-Earth it’d only be subject to sub-second transmission delays, allowing us to control out from Earth not by automated systems. Wilson is the best in the world, and as a pilot that hurts me to say, and when the probe gets close, he can take control and remotely direct it to Valkyrie. There’s also the human element – they’re capable, they can overcome problems as they come up. It removes issue of re-entry and stops Bruce from developing an ulcer.”

“How do we make the decision?” Bruce asked, perking up at the thought of a life that wasn’t getting years stripped off it from stress.

“We should bring Rogers into-”

“We aren’t doing that.”

“Gentlemen,” Pepper said. “Before you begin your thrilling testosterone fuelled contest of who can aim it highest, can I ask why I’m here?”

“We need you in the loop,” Rhodey explained. “We’re not deciding immediately. We’re going to have to carry out even more research. That gets noticed, the more likely it is something will leak. We need you to contain that, and be ready in case the ears that hear it belong to someone in the press room.”

“How long do we have?” She asked.

“The manoeuvre has to be undertaken within the next 39 hours.

“We discuss this only on the phone or in person. No email, no internal mail. No bringing in anyone except the people in this room. Understood?”

“Hello, and welcome back to The Barnes Report. If you’re just joining us on this special edition, my guest today is Senator Stern and we’ve been discussing the historic announcement made today: for the first time in history, the Sovereign nation of Wakanda has signed an accord to share their technology.”

Senator Stern scoffed, and Christine swivelled in her chair to face him. He was a short man, long past stocky and hurtling full tilt toward obesity, the result of far too many rich dinners and liquid lunches, not to mention a handful of other vices if the rumours on the Hill were to be believed, and
most did. His skin had the orange hue of a bad fake tan, though from the lighter tone around his eyes it was more likely one he’d acquired on a tanning bed. His hair was swept back from his forehead, displaying his receding hairline to its fullest, the temples greying in a way he probably thought made him look distinguished, even roguish, and he’d be disappointed to learn that it didn’t. Between the double chin, over-tanned skin, thick lips, and the heavy bags beneath his eyes, he predominantly called to mind a toad, rather than a prince.

“Senator, thank you for joining us this afternoon. Now, you’ve been very vocal in the press in regards to the transparency—”

“Supposed transparency.”

Everhart didn’t even blink at the interruption or at how Stern was getting straight into it.

“As you say, of NASA in regards to the rescue mission in general and the Wakanda deal in specific.”

“Absolutely I have, and with good reason. As we’ve seen over the last few days, the talks have been entirely between Wakanda - between Wakanda and Fury. A civilian. A man not elected, a man not of the people and for the people, but a scientist.” Stern spat the word, weighting it with the disgust and derision usually reserved for the term ‘child molester’.

“Very little information in regards to the deal that was struck has been released to the public, flying in the face of the ‘transparency’ that this public organisation owes the nation, and I think we have to ask ourselves why that is. What has Fury promised these people?”

“By ‘these people’ you mean Wakanda?”

“But you see, Christine,” Stern continued as though the journalist hadn’t spoken, “this is what I’d expect from the Ellis administration.”

“Which is what?”

“Lies and deception.”

“Lies or a lack of disclosure?”

“Is there a difference when we’re talking such high stakes? I suppose it’s all about the parsing of the words. Now,” Stern plastered a smile across his face, “I certainly wish the President well, and of course I believe he’s done the best he’s capable of in the situation, but the idea that we shift immediately from the protection of the many to the rescue of the one regardless of the cost to the rest…it’s simply unbelievable. It’s frankly astonishing we are expected to swallow that.”

Everhart chuckled, though Stern didn’t join her. “Well, surely an argument could be made that that is how the American people have operated since this nation was born – we don’t leave people behind. It’s a point of pride for many Americans.”

“All for one and one for all?” Stern’s lip curled up in a snarl of derision.

“Something like that. Just three months ago, President Ellis gave the order for the rescue of former SEAL Team Six leader Sean Watanabe who had been captured during a democratic mission, during which another SEAL was severely injured.”

“And I’m sure if you asked Sergeant Castle’s family, they’d be wondering if the rescue of one man was worth risking the lives of a dozen, including a hero that remains in a coma.”
“What if we were to ask Watanabe’s family?”

Christine cocked her head slightly to one side as her producers voice came across the discreet comms in her ear which was carefully covered by her hair. She blinked twice to acknowledge the new information and turned to her guest.

“She’s wife, Maria, was interviewed when his name was released after the completion of Operation NOVA. She was adamant, Senator, that she was proud of her husband, proud of his unit, and that if you were to ask him if being injured or killed in the pursuit of rescuing someone else, that he wouldn’t even understand that it was a question.”

Stern opened his mouth to rebut, but Christine held up a hand.

“When asked if she thought it was worth it, her response was ‘fuck yeah.’ I might remind viewers that Maria Castle is currently eight months pregnant with the couple’s son, and that she is facing the possibility her husband may never wake up, and that she will be raising their children alone. She still considers his sacrifice to be worth it.”

Stern narrowed his eyes.

“I think we're getting off track.”

“Then permit me to put us back on it. What about the announcement most causes you concern, Senator?”

Stern pulled an over-exaggerated expression of derision and when he spoke, his tone was dismissive. “Isn’t it obvious?”

“Why don’t you tell me?”

“It should concern you as much as it does me. It should concern every good, God-fearing citizen of our great nation. First, NASA is supposed to be the foremost scientific entity in the world and it can’t even get a rocket to Mars?” He snorted in disgust. “Second, why are we trusting a country practically nobody has ever heard of?”

“I don’t think that’s quite tr-”

“Third,” interrupted Stern, “it’s not even an ally! Wakanda,” he fairly spat the name, “is a foreign power, one that has repeatedly refused to join the rest of the world in the twenty-first century. Yet we’re expected to believe that it not only has a more advanced system than we do, but that they’re suddenly gung-ho to share it? And what took them so long to offer the help? Why now? What is it that they want?”

“You think there’s an ulterior motive at play?”

“I think my priority is the safety of the great people of the United States of America.”

Christine raised an eyebrow and leaned forward on the desk. “You believe the Wakandan Accord to be a threat to National Security?”

Stern sat back in his chair and ran a hand down his ugly red and white tie as he smirked.

“Well, I have to ask, Christine, Hell any ten year old with the sense God gave a slice of toast would have to ask, is what is NASA hiding this time? The Hill, the duly elected representatives that run this grand nation of ours were kept completely out of negotiations between Wakanda and NASA, so is
this truly an accord between nations or between a foreign power and an ailing agency?”

“I’d like to remind the viewers, and perhaps yourself Senator, that President Ellis signed the-”

“Ellis wasn’t ever going to turn down an opportunity to potentially turn around an unmitigated disaster, especially with the election coming up so soon.”

Christine frowned at him, but said nothing, instead looking down to her copy for a moment as she debated how to continue. “Are you suggesting that President Ellis would compromise the American people an-”

“I think the election is right around the corner and he’d like to appear the hero. I have to wonder, though, just how far is too far? How much is too much? Would James Barnes, a man that has seemingly dedicated much of his life to helping those less fortunate than himself-”

“His time in the Peace Corps and designing several new irrigation techniques and systems for crops in arid areas?” Christine took the opportunity to get in her own interruption.

“Yeah, that. You have to ask if he’d want the good hard-working people of America to foot the stratospheric bill that they’ll be presented with just to try to bring him home. I would love to tell you, Christine, that Barnes’ return is the most pressing use for our country’s funds, but I’ve looked at the data, I’ve looked at the figures, I’ve looked at the polling, and I just can’t see how we’re expected to believe that this is the most burning issue for most Americans. To be so dismissive of tens of millions of Americans is to suggest that good people around this country think that somehow the money shouldn’t be going towards the economy, to homeland security, to education, to health care, but rather the rescue of one man. I’m no expert, but isn’t it right that he might not even survive until the resupply reaches Mars, even with the much-vaunted Wakandan technology?”

“Well,” Christine coughed, “speaking of experts who might be able to help answer that question, we’re being joined now by Justin Hammer, CEO of Hammer Industries.”

“It should be noted,” came a voice, “that while I see Justin Hammer slithering into a seat at that desk, I’m wondering if and when an actual expert will be in attendance.”

“Am I sensing a disturbance in the Force - Anthony, is that you?” Hammer made a show of shielding his eyes from the glare of the studio’s spotlights, searching the murky shadows behind the cameras for the source of the voice. “Hey, pal! How you doin’?”

“Are you joining us, Director Stark?” Christine asked, her delight obvious. She called out to a technician standing behind camera 2, “Can we get him mic’d and a chair?”

“If you can’t find one, darling, he can have mine,” Hammer simpered, slipping from his seat and making a show of ushering Tony toward it. Tony didn’t move. Hammer was of a height with Tony, but of slighter build, and like Stern he was wearing a suit, but unlike the Senator his actually fit. He wore a sleek grey three-piece suit over a shirt so white it was nearly blinding under the studio lights. A pocket square that matched the understated paisley tie was tucked into the jacket’s breast pocket. Everything about his style screamed, to anyone in the know, ‘Tony Stark a la five years ago’. Even down to the artfully mussy way he was wearing his hair, and Tony was sure, as he approached the desk and the stool that had been liberated from the small makeup area, that if he were to check everything that Hammer was wearing, from jacket to socks, he would find the label of the tailor he himself had once favoured. In fact the only original item on the man were the heavy-rimmed glasses perched on his nose.

Normally Tony found Hammer’s single-white-female schtick to be mildly irritating at worst and
amusing at best.

Normal was not something with which Tony had been overly acquainted with of late.

The smug look of condescension on Hammer’s face was overly familiar though and as he took his seat, Tony found himself oddly comforted by it.

Which was probably not something he should ever let Garner discover. Along with roughly a library’s worth of daddy issues.

Not that those were news to anyone.

“Welcome, Director Stark.”

“It’s good to be here. You miss me?” Tony winked at Christine, who merely flashed the tightest of grins, though from the white-knuckled grip she had on her copy, she was as unimpressed with his latest stunt as she had been with the one previous.

And the fifteen before that.

A thread of apprehension wormed its way into Tony’s gut; Justin and Stern were known quantities, walking egos that would fall into a trap of their own making so long as Tony let them run hard enough at him for long enough, but Christine…

She was more than just intelligent: she was shrewd, tenacious, and unapologetic. While she’d so far in the interview shown she wouldn’t go after the owner of the network her show was airing on in quite the same way she would attack any other guest, the same was not true when it came to interrogating Tony Stark.

Worse, she was long past finding Tony charming.

That made her dangerous.

Maybe giving into his anger and striding down to *The Barnes Report* studio hadn’t been the best idea, he’d ever had. Especially seeing as how no matter how the next few minutes played out, Pepper was likely to disembowel him.

“I didn’t know Mister Stark would be joining us today.” Stern sounded decidedly put out by the idea.

“Stern, we don’t have time to list even the highlights of all the things you don’t know.”

Stern sighed and shook his head. “A pleasure, as always.”

“That’s what she said,” Hammer quipped with a breathy chuckle, eagerly looking to the others to see how his joke had landed. Not well from the expressions of pity (Tony), irritation (Christine), and disgust (Stern) with which he was gifted.

“Director Stark, so far I’ve been unable to tempt you onto *The Barnes Report*. What changed your mind?”

“A blowhard and an idiot walked into a bar. I’ll leave it to you boys to determine which is which.”

“I wish I was comforted, Anthony, by your assertion that we can trust you and trust this King T’Challa dude, I really do. I’d love to be able to stand up from this interview and think ‘wow, they have it all in hand. I really trust those guys’. But this isn’t Canada where everyone leaves their doors unlocked and talks to strangers on the subway. We need more than just ‘these people nobody
has heard of are gonna save our guy’. I’ve got questions of my own. Like ‘why’d it take them so long to help? If they could so something, why haven’t they before?’ Sadly, that technology was kept out of reach. That’s not fair. That’s not right. And I’m not so forgiving as to look past all that.”

Stern was nodding along, a smirk twisting his lips as he clapped a meaty hand on Hammer’s shoulder. “Precisely. I just wish all of you at NASA would respect the hard-working men and women of this country, instead of treating them as uneducated idiots that are coming down from the hills with no teeth and long fingernails.”

“That’s a nice image,” Tony interrupted with an amused expression.

“Glad you think the situation is so funny, Stark.”

“Oh, it’s not the situation. It’s you.”

“Excuse me?”

“You’re hilarious. I’m surprised, Stern. I would think the Hill would have been thrilled. You’re freaking welcome.”

“For what?!”

“NASA has done more for international relations in the last few months than Congress has in decades. What more do you want?”

“The answer to a simple question – will Wakanda be aiding in the cost of the rescue?”

“NASA has been especially tight-lipped on just how much is being spent on this rescue attempt,” Christine added. “The Financial Times ran an article just last week that placed a conservative estimate for a successful operation as being nearly three hundred billion dollars.”

“Precisely, Christine. There’s been numerous budgetary meetings on The Hill, the details of which have never been released to the public. Why all the furtiveness? Why the secrecy? Why the concealment, Mister Stark? How much does a launch cost? Hundreds of millions of dollars. The rocket Wakanda is so helpfully giving us, is a drop in the ocean! Who is going to pay for the fuel, labour – what is so funny, Mister Stark?”

“Why don’t you ask your ‘expert’?” Tony hooked his fingers in the air as he spoke, his amusement clear.

“What?”

“You brought him for a reason. I assume you’re paying him for his,” Tony smirked, “special expertise.”

“I don’t appreciate what you’re implying, Mister Stark.”

“Of course not, what would you know about paying someone for their time? You’re a Senator.”

Stern’s nostrils flared as a wave of chuckles could be hear in the dark behind the cameras.

“Are you even in the vicinity of a point?” He snapped.

“I’m going to make this really simple for you. We’re not launching Kimoyo Prime.”

“What?!”
“It seems I didn’t make it simple enough. I thought five words or less you could follow. What part
don’t you understand?”

“The rocket can’t be transported here,” Hammer clarified sullenly. “The supply probe will go to it.”

“King T’Challa will be funding the mission in its entirety. He’s good like that.”

“What do we owe him for that?” Stern spat.

“How do you talk so much but say so little of use?”

“Must have learned it from you.”

“Touche. But to answer your question, darling, we will owe nothing.”

“You expect me, you expect the American people, to believe that he’s doing this out of the goodness
of his heart?”

“Yes,” Tony answered simply.

Stern stared at him in flabbergasted silence for a moment before barking out a theatrical laugh and
turning to Christine.

“Come on, are you hearing this?! I mean, who are these people that there’s always a different set of
rules for them, we’re supposed to do what, look the other way?” Not giving her the opportunity to
respond to his rhetoric, Stern turned back to Tony and a grinning Hammer.

“King T’Chaalla was even invited to the White House for the signing but declined to attend.”

“He’s a busy man: his job is more 24/7, rather than, uh, what, one hundred thirty days?”

“It was a slap in the face!”

“To whom?” Tony asked, incredulous.

“Every American citizen-”

“Ooh, okay. You. You can just say that you felt like you’d been stood up for Prom. Again.
Figured you’d be used to that by now.”

“You can laugh all you want at this, but as far as I can see, there are two major parties involved in a
clandestine agreement, and only one of them appears to even pay lip service to the public by
informing them of what they’re paying for.”

“We’ve not heard from you much, Mister Hammer, what would you, if you had the opportunity,
wish to discuss with King T’Challa in regards to the accords and the technology that Wakanda is
offering?”

“Well, Christine, that might be a little difficult - I don’t know if you know this, but I don’t speak
African.”

Even Everhart had the grace to look appalled by that statement.

“Which African language don’t you speak?” asked Tony, curious.

“What?”
“It’s a continent, Justin. 54 countries and about 2,000 languages.”

“Is this important?” Stern asked with a tone that suggested that he considered it to be very much the opposite.

“Just now you were complaining that you weren’t getting enough information, here I am providing you with more and now you don’t want it.”

“I want relevant information.”

“Africa not being a country is pretty damn relevant to the millions of people that live there.”

“Yes, I’m sure this is all very entertaining to you, Stark, but if we could get back to the point.”

“And what was that again, sweetheart? Oh, right, transparency.”

“In fact,” Stern’s thick lips tugged upwards into a smug little smirk, “I have with me an email sent by Mister Hammer here, in which he offered the assistance of himself and his company.” He reached into his jacket and withdrew a folded piece of paper. Stern pressed the paper flat against the desktop and then slid it in front of Hammer.

“Mister Hammer, can you confirm that you were the author of this email?”

Making a show of it, Hammer poured over the short message, a furrow appearing between his brows.

“I think you’ve made a miscalculation, Senator.”

“Oh?”

“You’ve assumed that M.C. here can read.”

“This is the email I wrote.”

“To whom did you send this email?”

“Director of Mars Missions James Rhodes. I thought he might be more amenable to my offer than Tony.”

“And what was Director Rhodes response?” Christine asked, irritated at being frozen out of her own interview, but wary of pushing back too hard against a man that had the power to fire her.

Hammer shook his head sadly. “It wasn’t positive, Miss Everhart, I can tell you that.”

“He hurt your feelings?” Tony goaded with a smile.

“So the good people at home are aware of its contents, could you please read it aloud?”

“The whole thing?”

“The whole thing.”

Clearing his throat, Hammer turned straight on to the camera, holding the printout like copy, reading it out directly to the audience.

“Hey, pals. I know you’re trying as hard as you can. I’m offering my services, and that of
Tony frowned, cocking his head to one side.

“It’s a creation of pure genius. It’s fully adaptable, can be integrated to existing systems”.

Leaning forward, nearly toppling the rickety stool in the process, Tony reached around Stern and snagged his fingernail on the edge of the iPad in front of Christine, dragging it closer into reach before getting a hold of it, waving Hammer to continue when the man faltered in his recitation.

“If-If it were any smarter, it'd write a book, a book that would make Ulysses look like it was written in crayon. It would read it to you.”

“What is he – what are you doing?” Stern interrupted, warily watching as Tony tapped at the pad’s screen.

“Just checking something, don’t mind me.” When Justin didn’t turn back to email, Tony looked up. “Really, continue. You’d be surprised how I can do this and listen to you at the same time.” Tony’s ability to multi-task had, in the past literally saved his life. For instance he’d spent most of his adolescence fiercely proud of his ability to drive and get head at the same time, but even that hadn’t brought him the warm glow of satisfaction that bloomed in his chest as he found what he was looking for, all the while tracking Hammer’s speech.

Christine gestured for Justin to carry on, though she never took her eyes off of Tony.

Clearly irritated at not being the centre of attention, Hammer continued, though his gaze switched from between the paper in his hands and the pad in Tony’s, his view of the screen obscured by distance and the reflection of the bright studio lights.

“This is my Eiffel Tower. This is my Rachmaninoff's Third. My Pieta. It's completely elegant, it's bafflingly beautiful, and it's capable of making your plan perfectly viable.”

“I’m gonna go ahead and stop you there, J-Money.”

“I’m nearly at the end.”

“I’m not surprised, what with how much you’ve been skipping.”

Justin scoffed, eyes darting to Stern before his gaze moved to the camera and he smiled broadly.

“I don’t know what you’re talking about, Tony.”

“Then let me show you something here.” He tapped at the pad a couple more times and the large screen behind the quartet morphed from the studio logo to the image of an email client.

“Boy, I’m good. I’ve commandeered your screen, because I need it. You want transparency, Stern. You’re going to get it. This is the original email. The complete one, rather than the slash and burn number you’ve had our little Justin read. Fresh off the server.”

“You believe the viewers to take anything from NASA-”

Tony sucked in air and made an exaggerated expression of hurt. “Another miscalculation.”

“What now, Mister Stark?”
“This,” Tony waved the pad around, “isn’t from the NASA server. It’s from the Hammer Industries one.”

“Hey! How did you—that’s not possible!”

Behind Justin’s head, the image of the email became larger as Tony zoomed in on it.

“Can you turn that off? Get that turned off!” Justin screeched at the shadowy figures behind the cameras, but none of them moved.

“Justin, Justin, Justin,” admonished Tony. “Indoor voice.” He snatched away the paper from between Hammer’s lax fingers.

“I’ll just refresh everyone’s memories. According to this heavily redacted pile of garden fertilizer, the email you sent Rhodey started with you—” Tony stopped himself and gestured to Hammer.

“Justin, you’ve done such a great job as an audiobook, you want the honours?”

“…”

“No? Sterny-baby, how about you?”

“You’ve proven your point.”

“Not yet I haven’t. You wanted transparency, Stern. Yet you come in to my house and try to sell the good public on a steaming pile of—“

“Director Stark!”

“Your shirts come pre-stuffed, Stern, or is it just how you wear ‘em?”

Tony’s attention returned to the tablet in his hands.

“Speaking of BS, if I were a less trusting guy, I’d also wonder about this alloy. What the hell, we’re in the neighbourhood, might as well have a look around.” The screen displayed a variety of different directories and folders as Tony navigated his way around HI’s system before opening a folder filled with documents and a handful of videos.

“What do we have here? Hope you viewers have your popcorn ready, I’m about to put on a show.”

A few seconds of snow static on the large screen gave way to the image of a large office, a polished desk holding a sophisticated

In the footage the sheet of Vibranium alloy was subjected to extreme temperatures, a readout on the right hand side of the screen displaying numbers ratcheting up into the hundreds of centigrade.

Which was the moment the whole sheet turned white hot and began to melt.

On the video Hammer could be seen rushing into the fray brandishing a fire extinguisher.

The wrong sort for the fire type, as it happened.

That he proceeded to attempt to empty over the flames.

The ensuing fireball mushroomed towards the ceiling, no doubt relieving a Hammer Industries employee or two of their eyebrows along the way.
Not to mention causing something to get between Hammer and his Calvins.

Which seemed to be what was happening to him on *The Barnes Report* set, if the facial expression was anything to go by.

Tony’s eyebrows climbed to his hairline as he surveyed the still burning twisted, increasingly puddle-like, hunk of former alloy.

‘Y’know, I got a robot that’d be great if you guys at H.I. wanna play with matches again. I'll lend him to you. Friends and family rate.”

On the video, his arms and chest flecked with the foam from the extinguisher, Hammer was berating a heavy set man with a bored expression. Had he been viewing the video alone Tony might have paused it, scanning the man’s face – literally. He had written at least three programs for that the last time he was bored and Pepper had yelled at him about never recognising the interns – until he could place the man’s familiar features, but as it was, he was far more invested in the public seeing what was looking to be ramping up into a meltdown of Bale-like proportions.

And a shitshow of Stark-like ones.

The man wasn’t particularly tall – though Tony was hardly in a position to be throwing stones on that score – but he had an intimidating physique, bulky and solid in a way that screamed ‘I can fuck you up with zero exertion’, looking for all the world like he could snap Hammer in half, and from the look on his scarred face, he wanted to do exactly that. Pushing his greasy, shoulder-length hair out of his face and quickly knotting it into a bun, the man blinked at Hammer in absolute silence.

Which only seemed to infuriate the CEO further.

“We have a contract, Ivan. Do you know what that means? *Con-tract*. I get you out of the shithole country that I found you in, you get me the Vibranium and make me the goddamn alloy.” Hammer was now close enough to Ivan – and Tony was finally able to place him as Ivan Vanko, the son of disgraced scientist Anton Vanko, one of the scores of people that Tony’s own father had fucked over – to prod him in the chest with one thick finger, as unwise an action as stepping closer to a posturing cobra.

“You told me you could do this! You want Stark humiliated. *I* want Stark humiliated. We’re a match made in Heaven, buddy. But failure after failure! I don’t know if you’re a genius or a fraud, I really don’t. But right now I know you’re goddamn ineffective. You were supposed to be dropping something really, really great into my lap. You were meant to deliver weeks ago.” Hammer was red in the face now.

“But what do I have, Ivan? Hmmmm? A hole in my floor. I’ve already contacted NASA about replacing their tech with mine, and for what?!”

“I tell you, it is not ready.”

“Not ready? *Not ready*?! I can fucking see that it’s not ready!”

“You can have presentation.”

“Is that what you call this?” Hammer waved at the destruction.

“Just not demonstration.”

“What,” Hammer puffed out his thin chest as he placed his fists on his hips, probably thinking it
made him appear commanding, “is the difference?”

“You can look. Not use.”

“Wait. Wait, wait, wait, wait. Wait. You’re telling me that you’ve been at this for months, spending my money, and this hunk of space junk is all you have to show for it?”

“Yes.”

“Yes? Yes? What the hell do you mean, ‘yes’? This is not what we agreed upon, okay. You promised me you could do this.”

“Hey, man. Everything will be okay.”

“Nothing is okay. I’ve made promises to people. Important people. I’m seeing the Senator next week, he wants an update. This is not what I wanted! I saved your life, and this is what you think my altruism is worth? I wanna take a dump in Stark’s front yard with this tech. I want to put Hammer Industries in the Pentagon for the next fifty years.”

From his pocket, Hammer’s phone chimed and he took a step back to pull it free. “We appear to be out of time. Your lucky day, Ivan. I have an interview to get to, that blonde reporter Everhart.” Mood changed fast enough to cause whiplash, he smirked up at Vanko. “I’d be Everest hard for her, if you know what I mean.”

Vanko’s facial expression suggested that he did indeed get it, and was disgusted by the man in front of him.

“Ебать себя!”

“I keep telling you, I don’t speak Russian!” Out of frame there was the clunk and hiss of a heavy door opening and the clumps of booted feet crossing the lab. Five men stepped into view, all exuding an unsubtle menace and a lack of a sense of humour.

“While I’m out, you-”Hammer waved his phone in the Russian scientist’s face, “-are going to fix this. Or when I get back we will be re-negotiating the terms of our agreement. These guys are your babysitters. If you’re good, maybe they’ll let you watch some TV while you work. If you’re bad, then at best you’re gonna wind up back where I found you, a dead man in a hovel.”

The video came to an end, freezing on Hammer’s face, an unflattering moment to pause on, his eyelids half shut, mouth open wide, looking for all the world like an overgrown frozen baby mid-scream.

“That’s – that’s taken entirely out of context.”

“Well, performance issues, not uncommon. One out of five, I hear.”

Justin’s response was lost under a splutter of indignation.

“It’s moments like these that I realise just how different I really am from you, Justin. I’ve learned to admit when I need assistance. ‘No I in team’ yadda yadda. So you see, it’s not about me. It’s not about you and your non-existent tech. It’s not about Stern and his approval ratings. It’s not even about us here at NASA. It’s about legacy. It’s about what we choose to leave behind for future generations. And that’s why the best and brightest men and women of nations and corporations the world over are pooling their resources, sharing a collective goal – not just to rescue Bucky, but to leave behind a brighter future. To take a step towards something mankind has never before
managed: world peace. It’s not about us. It’s not even just about Barnes. Therefore, what I’m saying, if I’m saying anything, is welcome to a better world.”

“I like your optimism, Mr Stark.”

“I like your,” Tony made a show of looking Stern over slowly, frowning as he did so, “well, I guess your tie isn’t completely offensive.”

“I see you inherited your father’s attempts at humour.”

“My mother taught me to try and find _something_ to compliment on a person.”

Stern grinned, a slow, sharkish, unpleasant expression that he no doubt thought to be more cunning than it was.

“Speaking of your parents-”

“Oh, must we?”

“You’ll have to correct me if I’m wrong-”

“I’m sure I will.”

“but weren’t there rumours that your parents’ deaths were the result of an assassin sent by King T’Chaka, the previous King of Wakanda?”

The mention of his parents, not wholly unexpected, caused Tony’s chest to tighten and his breath to catch but it was an old hurt, one that he’s worried at so often it’s scarred over and lost its edge, despite how it still aches.

“My parents died in a car accident. My father, as is widely known, had an overwhelming affection for alcohol-”

“The apple didn’t fall far from the tree, then,” Stern interjected snidely.

Tony flashed him his teeth in an approximation of a smile.

For a shark.

“My demons are well documented, thank you for pointing that out, Senator. I’m sure Miss Everhart would be _more_ than willing to show you the spread that she did on that _very_ topic.” Tony swivelled on his stool to grin broadly at Christine who glared back.

“As I was saying, my father was, among many other things, a drunk. He was spectacularly drunk the night he ran his car off the road. He didn’t run afoul of a hitman from Wakanda, he ran into a tree, through the windscreen and into the afterlife.”

“That’s a very cavalier attitude, Mister Stark.”

“I’ve had twenty years to come to terms with it, Senator. It is what it is.”

“So you have no conflict with the Wakandan people?”

“Absolutely none. I, like everyone else with a gram of compassion and common sense am grateful to King T’Challa.” Tony turned to Justin.
“But MC Hammer over here probably got a beef with him. Or,” Tony corrected himself, “King T’Challa will with him once he sees that video.” Tony thumbed over his shoulder at where the image of the failed experiment at Hammer Industries.

Justin recoiled from the desk with a chuckle, but Tony didn’t miss how his eyes darted from Tony to the camera and back again, his expression of amusement little more than a rictus.

“I don’t know what you’re talking abo—”

“How many times a day do you find yourself having to say that?” Tony asked. “Ballpark? I got a bet goin’ with Rhodey that it’s in the double digits. Over/under of two. Wanna help me win?”

“Director Stark,” Christine drew the men’s attention away from each other. “Are you insinuating that Hammer Industries might have acquired the Vibranium for their experiments in an illegal manner?”

“Insinuating? No. Stating it as fact? Yeah.”

“I get it. I see what you’re doing – you’re finally thinking like a CEO after tanking your daddy’s company. You’re trying to pin this on me, huh, take out the competition, make NASA look good? That’s good. That’s good. I like that. I’d like to point out there’s never been a hint of misconduct around Hammer Industries. I’m just trying to help here, Anthony. You think you’re making a problem for me? I’m gonna make a problem for you. I’m gonna be seeing you again real soon.”

Justin fumbled with the microphone clipped to his lapel, the wire snaking under his collar and down the inside of his shirt to the box attached to his waistband tangling with his buttons and finally he just wrenched it free, the device clattering to the floor as he pushed himself away from the desk and walked away.

Nobody bothered trying to stop him.

“I think we’re done here, is the point that Mister Hammer is making. I don’t think there’s any reason to continue with this farce of an interview.”

“I would have thought a man of your age would have had more stamina and patience, Stern.” Tony didn’t miss how Stern was flipping him off just beneath the edge of the desk, where the viewing public would be unable to see it, though given how well the rest of the interview had gone for him, Tony didn’t know why he was bothering to hide it. “But now I have your attention, I’ll admit to being a smidge interested in your motives for appearing today, Senator.”

“My priority is the safety of the American peo—”

Tony waved that away. “Yeah, you said. But see, I seem to remember hearing, that you’re losing the race to keep your seat. That’s got to be a little embarrassing for you. Having trouble keeping it up – I’m sorry, keeping up? If you can’t do the job, maybe it’s time someone else came in.”

“Fuck you, Mister Stark. Fuck you, buddy!” Stern turned to Christine, red-faced and wide-eyed. “We are done. We’re done now, Miss Everhart.”

“I’d like to thank my guests—”

“Yeah, it’s been a fucking delight.” Stern ripped off his microphone, getting tangled in the wire, before he threw it to the ground and stormed off.
Clint,

Hey pal, how’re you guys doing? Must be good to be so close to home. Throw a Frisbee for Lucky for me, eh? Given, uh, recent wind-related events that have led to a decidedly dicey future for me, I no longer have to give a shit about social boundaries and all that Emily Post bullshit. Make your move on Natasha. For whatever reason, that woman—who could do better, by the way—seems to adore you and Nat ain’t one to give her affection to the undeserving.

Fuck waiting to touchdown on the pretty marble you’re headin’ to. Look where that got me. Just, ya know, try and be subtle, yeah?’

Project Elrond: The Remix, met again twelve hours after they had separated, and six hours after Tony had walked off The Barnes Report set. As had been expected, Pepper had been busy containing the rumours that had spread through the complex about the Elrond Project. Speculation had been rife between departments as theories flew through the air faster than gossip about the latest Hollywood divorce. Were the Ares missions being scrapped entirely? Would Barnes not be rescued at all? Would there be a sixth Ares mission? Was Director Fury being dragged over the coals by an Oversight Committee headed by Senator Stern? Were the other Directors circling the wagons? Was there an internal power struggle to take a soon to be vacated Directorship?

Which would happen first – Stark being fired by Fury or brutally murdered by Potts?

Pepper’s team followed the scuttlebutt voraciously, keeping her clued in at all times, her office phone, cell phone and pager firing off almost constantly.

So far, the press room had been kept out of the loop, but Pepper knew better than to hope that would be a state of affairs that would continue.

What hadn’t been expected was dealing with the fallout of Tony’s little stunt, the Ares 3 Director likely only alive because Pepper and Fury had been too busy to take the time out of their day to read him the riot act, though Pepper had found five minutes of time to send increasingly threatening (and increasingly grammatically incorrect, not to mention physically impossible) texts, but the day was still young and Stark knew his time would come. He suspected that had Pepper not been mildly relieved that his actions had kept the press busy reporting on his little tête-à-tête with Stern, she would have found the time to pencil in some light murder into her schedule.

Once more Fury sat behind Rhodey’s desk, relegating the other man to leaning against the wall next to Tony rather than suffer the discomfort of his visitor’s chair. The NASA Director had both of his booted feet kicked up onto the desk as he spoke into the phone, his voice little more than a rumble.

“Nice interview,” Rhodey muttered. “It was a change of pace to see you on TV you’re your clothes on, so at least there’s that. Asshole.”

“I’m sorry, should I have invited you? We could have tag teamed.”

“As fun as that would have been, some of us were doing our damn jobs.”

“So was I.”

“That what you call it?”

“Did you see I’m trending?”
Tony rolled onto his shoulder so he could face his friend. “You wanna be the next stop on my ‘My apologies for standing up for us’ tour? Or can I just call Teleflora and have the ‘You’d have done the same damn thing’ bouquet delivered? It’s nice, got peonies. Little felt bumblebees on sticks. Very classy.”

“I want the ‘fuck you, asshole’ platter, with an extra serving of you eating crow.”

“With extra relish.” Tony grinned broadly, before turning back to front of the office at the click of Fury returning the handset to the cradle.

“I’ve made my decision,” Fury declared, the room’s occupants hanging on his every word.

“Come on, say it, say it, say it,” Tony was muttering under his breath.

“It wasn’t easy, but I have decided against the use of the Avengers Initiative. We will proceed with Zephyr Two as previously planned.”

“That’s bullshit!” Tony exploded, pushing off the wall and gesticulating at Fury. “That’s bullshit and you’ll kill him. Every single permutation I ran over the last twelve hours show the Initiative is the clear choice.”

“My team will make it work, Tony,” Bruce promised, though his tone and expression belied his words.

“Why?” Rhodey asked Fury.

“Zephyr Two risks just one life. The Initiative risks six. Maybe the Initiative is more likely to succeed, but can any of you guarantee that it’s six times more likely to succeed?”

Bruce and Rhodey shook their heads in silence.

Tony however…

“You fucking coward,” Tony shrugged off Rhodey’s quelling touch with an irritated expression. “You’re so fucking scared of Stern and Oversight and of the fucking red folder that you don’t even see you’re running straight to it! You don’t give a shit about Barnes, or the crew!

“When he dies this time, what you gonna build in his name then? ‘The James Barnes Memorial Fountain’?! As ever Stark pulled none of his punches, aiming for the kidneys with every strike. “Did Barnes strike you as the chilled out zen type enough for a fountain?”

“Are you emoting? I can’t tell,” Tony leaned forward, knuckles on the desk as his gaze roved Fury’s face. “Rhodey, help me out here. He’s doing that inscrutable thing again. I can’t tell. Is this the face,” Tony gestured wildly in Fury’s general direction, “of a man that thinks a fucking fountain is the way to go when Barnes dies again?”

“It’s the face of a man that’s going to kill you,” Rhodey replied, too drained by the day’s events to find any amusement in his friend’s behaviour.

“Life isn’t the movies, Stark.” Fury stood and made his way around Rhodey’s desk. “You piss with the dick you’ve got: you don’t get to make the dangerous play, save the world and get the girl. You can be as infantile and volatile and convinced you’re right as you like, but the decision is made.”

“You shouldn’t be making decisions that affect the crew without informing them!”
“Like you, they’re too emotionally involved. You’re the gambler, Stark, not me. I have to be responsible for me than Barnes, more than the crew, more than you. We have to save as many as we can, and sometimes that doesn’t mean everyone.”

“Bullshit! How can emotion not be involved? I’m being serious, this is my being serious face.” Tony jabbed a finger in his own face. “You see how I’m emoting? See how I’m making an expression? Human beings do that. Is it that your other eye was the only one that could convey emotion? Have you been replaced by a life model decoy? Is this a Body Snatchers situation? How can you sit there and just say you’re going to let him die?!”

“Tony…” Rhodey put up a feeble argument from Tony’s side.

“You seem to be overburdened with an idea that this is a democracy. It isn’t. It’s a benevolent dictatorship. The decision is mine, and it’s made. No amount of histrionics is going to change it.” Fury pointed to Tony.

“Ant.”

He pointed to himself.

“Boot.”

Stark stepped closer, eyes narrow and fists clenched. After a few seconds of glowering unblinking into Fury’s eye, he stormed from the office, slamming the door open so hard it left a hole in the drywall where it bounced and crashed closed.

“I’ll, uh, I’ll go do…damage control,” Rhodey followed him. He knew just what Tony was really going to do.

He was also going to help.

Bruce ran his hands through his hair, slumped low in his chair.

“You know,” he said to nobody in particular, “I know a few techniques that could help him manage his anger more effectively.”

“They working for you right now?” Pepper asked tartly as she collected Tony’s things.

“No, can’t say they are,” Bruce stared at Fury.

Fury whirled on Bruce with a frown. “What was that?”

“I didn’t say anything.”

“And I fucking heard you not saying it.”

Slinging her coat over the crook of her arm, and her purse over her wrist, Pepper drew herself up and turned to her friend, uncowed by the expression on Fury’s face.

“I quit. I'm resigning. My body literally can't handle the stress. I don't know when someone’s going to end up getting themselves killed, left on a planet, blown out an airlock, lied to…The Zephyr Two project goes ahead, and it'll be my last with the organisation.” She strode to the door, head high, back straight. Just before she crossed the threshold, she turned back to Fury.

“He’s right you know. I never thought I’d live to see the day Nick Fury became a coward.” She nodded at Bruce. “Good day gentlemen.”
“I’m supposed to be talking you down.”

“Not gonna happen,” Tony didn’t so much hesitate as he turned left down another corridor, navigating his way through the maze of offices and breakrooms, heading to God only knew where.

“Yeah, I got that.” Rhodey had to jog to catch up with Tony, glancing at his friend as he strode alongside him, throwing on the brakes when Tony stopped suddenly.

In the next moment Rhodey found himself in Tony’s arms, being squeezed so hard that he became momentarily concerned that the hug would result in permanent spinal damage, but the contact did more to eloquently express Tony’s gratitude than any words could.

With his arms pinned to his sides, Rhodey was unable to offer his own comfort in return, hands jerking uselessly as he tried to hug his friend back. He settled for leaning into the hug, for letting it continue as long as Tony needed. Rhodey knew his friend; Tony wasn’t good at expressing his emotions, especially in healthy ways, and particularly when what he was feeling seemed bigger than him.

Tony stepped back a few seconds later with a cough and an awkward pat to Rhodey’s arm. “Fuck’s sake, Rhodey. We can’t stand here wasting time. We got shit to do.”

Suppressing a smile, Rhodey gestured down the hall. “After you.”

“We’re crossing the Rubicon here, Rhodey. No going back. You sure about-”

"I am marching into Rome,” came the instantaneous answer.

“Remember when you told me you were joining up?”

“Took you a lot of things.” Rhodey waited, knowing Tony would get to his point eventually.

“You said that one day I’d know how you felt about how joining up was the right thing in your heart to do. Steve asked me to save Barnes, and Fury’s way won’t do that. We know what will. You were right - I finally know what I have to do, that what I’m going to do is right.”

“So what’s that? Where are we going?”

“You know where. Actually…I hope you do because I don’t. Where’s Foster’s office?”

“Tony. Fury made the decision.” Rhodey belied his words by grabbing Tony’s arm and tugging him right when the man went to turn left at an intersection of identical-looking corridors, the pair banging through the entry to the stairs, Tony taking the steps two at a time once he knew they were heading up.

“It was the wrong one. Didn’t take you for a coward too.”

“You’re saying that to me?”

“You going to help me do what you know I’m going to?”
“Fuck yeah. Yeah, Tony, I’m gonna help. So, how are we going to do this?”

“We need to do the job, we need to do it better. We’re gonna do it better.”

“That’s great Tony, but I don’t speak Fortune Cookie. What are we actually going to do?”

“We’re gonna find a heavy-duty comm sat and say hi. I’ll need your login.”

“So it looks like I sent it?”

“Nope, misdirection. A magician never reveals his tricks. Trust me, it’s not coming back on you.”

“It’s same as it’s always been, ‘WarMachine68.’”

“And a password, please.”

“Well, look,” Rhodey winced and glanced to the side, wondering just how much shit his friend was going to give him for this, “I gotta change it every time you hack in, Tony, so this wasn’t my first choice. By the way, can you stop doing that? HR came down on my like a tonne of bricks with no sense of humour after you sent that email blast out to every woman in NASA.”

“It’s not the '80s, nobody says "hack" anymore. Give me your password.”

“Natasha does and she’s the expert. I got sent on three sexual harassment courses because of you and that fucking email.”

“Pretty certain she uses it ironically, my man. Come on, you know you needed to brush up on what is a red light situation when conversing with co-workers. I heard you passing comment on how nice Pepper looked the other day.” Tony shook his head sadly. “It was devastating, really. To see how little you’d learned, talking about a co-workers looks like that.” Rhodie reached out and shoved his friend into the wall with ease, Tony bouncing off with a wry smile and a wink before sobering once more.

“C’mon, Rhodester, give it up. Password.”

“I’m thinking of upgrading this conversation to a red-light situation.”

“Pass. Word.”

"War machine rox, with an ‘X,’ all caps.”

Tony laughed.

“Yeah, okay.”

“You aren’t supposed to have access to that.”

“Why? Because of your little firewall and security protocols? Just how lame do you think we are?”

“Thor won’t get the chance. I can’t even send him a word of it. All that work, all that hope. For nothing. For the last year all I’ve wanted, all I’ve thought of is getting him back, but I know – I know – that he can do this. That he’d do this, get Bucky back. And I can’t tell him anything about it. So that’s it. It’s done.”
It shouldn’t have been possible, nobody in four inch heels should be able to move so silently along tiled floors and yet Pepper slipped into the old Apollo control room with barely a whisper of fabric.

The last time she’d been in the room she’d been standing on the makeshift stage, ten candidates to her left. The stage had long since been dismantled, the covers returned to the tech stations. Except for the two before which stood Tony, Jane and Rhodey at another. Clearing her throat, Pepper watched as all three jumped and whirled around, looking for all the world like three children caught with their hands in a very expensive cookie jar.

“Tony, what are you-”

Abandoning his post, Tony turned to his partner, slumping back against the desk.

“Let’s face it, this isn’t the worst thing you’ve ever caught me doing. Remember that time in Shanghai?”

“Tony.”

“Pep - we shouldn’t have this knowledge, we shouldn’t be the one’s making this decision. It’s not our lives on the line, it’s not our…it’s not our decision to make. We shouldn’t have the hubris to explore the fucking universe if it means losing our humanity too. Barnes deserves a chance, a chance ‘Zephyr One the Remix’ won’t give him. The crew deserves a chance. Who the fuck are we to make this decision for them?

“Hear me out. I have to do this, I will never be able to forgive myself if I don’t. I’m not crazy, Pepper. I just finally know what I have to do. And I know in my heart that it’s right.”

“I know.”

“Huh?”

“I’m not here to talk you out of this or drag you in front of Fury. I’m here to help. I’m not an idiot, Tony. I know you. I knew what you were going to do the second it was first proposed, just like I knew Nick would shoot it down. I need the Idiots Guide To The Avengers Initiative so I can hold a press conference the moment the crew goes rogue. Once it’s public, Fury can’t go back on it.”

Tony blinked rapidly, eyes sliding over to Rhodey before snapping back to Pepper, mouth moving soundlessly until he found the right words.

“…I really, really fucking love you.”

“I know.”

Chapter End Notes

Ебать себя - fuck yourself
Dear John

Chapter Summary

Now that Garner has lifted his embargo on Bucky communicating with Steve, a letter is sent

Dear Steve,

I don’t know if they’re gonna be chaperoning or censoring our little reunion. Rhodes promised me he wouldn’t let Garner near my emails to you guys, then swore on the memory of his sister that nobody would touch this message, but you never know. I know we only met him those few times, but he’s a stand-up guy so I gotta trust that nobody not called Steve Rogers is reading this.

If there is, well fuck you guys with a meat cleaver. Fuckin’ voyeurs.

I can’t tell ya how many times I wrote and rewrote this shit. Turned into some sorta goddamn Harlequin bullshit not knowing what to say or how to say it. ‘Cos I got a lot to say and no fucking words to do it. So many times I could have told you, so many times I should have. It all seems to fucking stupid now, no matter how much it made sense to bite me tongue at the time.

But I did it.

Or didn’t do it.

You know what I mean.

I stuffed it all down, locked it all up and didn’t go near that Pandora’s box. I taught myself not to stare. Not to notice how you can’t seem to buy the right damn size clothes. Not to want to throw a punch when someone hit on you. Not to feel so fucking relieved when you turned ‘em down with a smile and a kind word because you’re just much of a special kind of asshole that even when you turn people down, they still like you.

Sitting here, looking out on my kingdom of jack shit, it all seems so fucking stupid.

Because somewhere between the being stuck like a pig and getting blow up by my own stupidity, I came to a conclusion: chances are, I ain’t gonna get a chance to say this to your face, and I really gotta say it.

I ain’t givin’ up or anything. I’m gonna fight like hell to survive, but I also gotta set myself realistic goals. Yeah, yeah, I read the shit Garner sent. I don’t know if I believe half of it, but that one makes sense. I gotta set goals I can achieve or I’m gonna lose heart.

But don’t worry, I get the chance, I’m gonna say it to your stupid face every fucking day. You’ll get tired of hearing, but I ain’t ever gonna tire of sayin’ it.

Between selections, training, surfing the Tesseract to get here, I’ve known you over two years now. First as Captain Rogers – Captain Freaking America -, all upright righteousness and valor. Then the geology nerd that y’are started to shine through. YIn time, you relaxed around us, around me, and became Cap.
Cap became Steve.

Steve became Stevie.

That’s who I followed, ya know? Not Commander Rogers, but Steve. The kid from Brooklyn that couldn’t walk away from a fight if his life depended on it. The nerd that can’t dance but does it anyway when he thinks nobody is paying attention. The guy that’d lay down his life for a stranger.

Do you remember that bar you found me in? Some shitty little hole in the wall nothin’ place in London near the conference hall. You walked in and I didn’t even know who you were and I couldn’t take my eyes off you.

You were in your uniform, still don’t know why, but there you were, belt, buckle, braces and all.

Actually don’t think it had braces, but that’d be a good look for you. Just sayin’.

I wondered who were looking for, who the lucky gal was, and then you saw me and you smiled and that’s all she wrote.

Turned me into a goddamn Mills and Boon heroine.

Trust me, if I had a cleavage, it’d have heaved.

Bastard.

I wasn’t even lookin’ at ‘em, and I knew that everyone in the place wanted to fucking kill me for having your attention. You didn’t look away from me for a second, walking right over to me, introducing yourself, ignoring everyone else in the bar. I think I heard a dozen hearts breaking right then.

Including mine. I thought I was in for the best night of my life, when you offered to buy me a drink. I remember asking you if you wanted to go dancing, that the dames wouldn’t be able to resist a handsome Captain in his uniform.

Still don’t know to this day if it was me or the Scotch that made your cheeks pink up.

Never got to dance with you. I regret that.

Then you went and told me who you were. Why you’d found me. Told me I was on a shortlist to be a specialist on a mission to Mars.

I thought you were insane.

Still do sometimes and my ass is actually sitting on Mars.

I guess there is still the slimmest of chances that I’ll get out of this. But a chance is a chance and I gotta grab that with both hands, right? I gotta be able to say, when I’m dying, that I tried, that I did my best, that I did every damn thing I could to get back home. Back to my girls. Back to you. So don’t think I’m giving up, that I’m thinkin’ I missed my chance to say this to your face, ‘cos I’m holding onto that with everything I got. But in case, just in case I can’t pull another magic trick out my ass, in case duct tape can’t fix everything, I gotta say it. So I know, if it happens, that I said it. That I didn’t miss my chance to let you know.

I love you.

I ain’t giving up, I’m gonna find a way, but just in case:
I love you Steven Grant Rogers.

I love you.

And I don’t blame you.

You were in an impossible situation. We all know what happens after decompression. Even if you’d found me by the time the MAV started to tip, chances were I was dead anyway, even after you got me into the MAV.

There were too many variables, sweetheart, and you are a lotta thing, but psychic ain’t one of ‘em.

Stop blaming yourself.

I know you’re frowning right now. Probably even talking to yourself, that you are to blame. That it was somehow your fault. Sorry Princess, but ain’t nobody alive that knows this better than me;

None of this is on you.

You saved the others. That was your job. I know as a military man, as a good man, leaving a man behind is unthinkable. But lemme tell ya, losing the whole crew is worse. You saved ‘em.

I don’t blame you, and pal, I’m the one up on this red rock so my opinion counts double.

Being here’s given me some great stories – never gonna have to buy beer again – and I’m lookin’ forward to telling you each and every one. I’m gonna bore you stupid with ‘em. I’m gonna live, just so I can do that.

And tell you to your face.

I love you, punk.

Just, uh, just thought you should know.
Mutiny On The Valkyrie

Chapter Summary

After months of having no power over their own decisions, of being unable to help their stranded crewmate, the remaining members of Ares 3 receive a message that would put power squarely back into their hands. The ball is in their court, and now they have a decision to make.

Thor ran through the last of his daily assessment of the position and trajectory of Valkyrie, ensuring that it remained along its plotted path.

As it always was, the Valkyrie was perfectly on course.

Of all of the duties that he had, those of navigator were the most laughably easy. Almost all of the systems within Valkyrie were automated, navigation software immediately recognising any deviation from course and instantly correcting them by angling the reactor powered engines to return the ship to its true course home.

Natasha kept excellent care of the reactor – which after Thor dubbing it the Tesseract early in training, the rest of the crew had adopted the name – and so with it in perfect working order, it would take a complete computer failure to knock Valkyrie off course, and there were redundancy after redundancy after redundancy to ensure that didn’t happen.

Natasha was the consummate professional and kept her systems under her watchful eye at all times. Nothing short of her death was going to allow a complete computer failure.

So Thor rather felt his considerable knowledge of astrophysics and astrodynamics were a little wasted.

At least he could carry out all the diagnostics from the comfort of the computer panels in his personal quarters, rather than having to traipse up and down the ship to physically visit each individual systems stations as once astronauts had had to do in order to carry out systems checks.

The engines were functioning at peak and with no reported issues.

Those checks complete, Thor shut down the relevant programs and sat back, his daily tasks finished and ready to enjoy some personal time. Which millions of miles from home meant reading the emails that his friends and family sent to keep him up to date with world events and the more important, to him, tales of his loved ones. The messages tended to range from talk of recipes recently tried, missed birthdays, his wife’s latest research and little snippets of family gossip.

The small tales of the mundane day to day life he was missing out on were the highlight of his day.

An email from wife caught his attention immediately. In the subject bar, the message was titled ‘brødrene dine Muninn og Huginn’, which was just confusing. Thor had one brother, but his name was Loki – their parents having no sense of humour whatsoever.

Huginn and Muninn were ravens in Norse mythology that flew around Midgard from morning to night to return to Odin with information and were representative of memory, thought and wisdom.
Why would his Jane write such a thing? And in Norwegian no less.

Opening the email, he found the body of it empty except for an attached image file, but when he tried to open it, the computer came back with a report that the file type was unsupported or the file was corrupt.

Intrigued, Thor left his quarters, able to walk along the corridors because of the location of the crew quarters along the outer hull of the craft taking advantage of the constantly rotating ship providing simulated gravity, and made his way to Natasha’s room.

As usual her door was ajar, her signal that visitors were welcome so he knocked on the door jam. “Miss Natasha?”

A heavy sigh, audible even over the whir and ticks of Valkyrie’s systems, met his request for entrance.

“Thor, we’ve known each other for years, it’s just Natasha. Come on in.”

Nudging the door open, Thor had to step over Barton, who was sprawled across Natasha’s floor with his ereader, to perch on the edge of her bed, the only other place to sit as Natasha occupied the desk chair, and returned Clint’s lazy wave of hello.

“What’s up, big guy?”

“I am experiencing a problem with my computer. My wife sent me an image but the computer will not open it.”

“Let me have a look.”

A few clicks of her mouse had Natasha navigating to the shared network she used to distribute the crew’s messages and instructions from NASA.

Thor pointed to the relevant image.

“She has sent many others of the same type, without issue.”

“Hmmm.” Natasha’s fingers flew across the keyboard as she analysed the image’s source code. Multiple windows flashed open and closed as she did who knew what.

“It’s encrypted. Really encrypted. Let’s see what I can – huh, the person that did this is slightly smarter than me. But only slightly. I can get around…” She frowned and Barton rolled onto his belly, ereader abandoned at his side as he shuffled to his knees at her side.

“It’s like whoever did this knew the methods I’d use to…it’s not an image. I don’t even know what it is. This is some old school spy…” Natasha broke off and stood up, heaving a box out from under her bunk and tossing the lid off to the side, narrowly avoiding braining Clint with it, ignoring his indignant shout. She burrowed in the box, shoving books and clothes, and assorted sundries out of her way until her hand closed around a small pen drive with a cry of success.

Settling back into her chair, Natasha plugged the device into the side of her monitor before turning to the two men, Clint now sitting at Thor’s feet like a loyal hound.

“Either of you ever heard of steganography?”

“The dinosaur?” Clint asked.
“I believe that is a stegosaurus,” Thor offered helpfully.

“Then you have to be aware my answer is no.”

“Steganography is like hiding your valuables in a fake shaving foam can. It’s hiding in plain sight. To the average person it’s just a photograph or a video or a freaking laundry list, but if you’ve got the key, it’s state secrets, passwords, classified documents, anything you want.”

“And this,” Clint waved a hand at the screen, “is a stegosaurus?”

“Steganography,” Thor corrected idly. He knew as well as anyone else on Valkyrie that Clint wasn’t anywhere near as dumb as he made out. Just like whatever Jane had sent him, he was hiding in plain sight. Though, much like Jane’s message, Thor wasn’t sure as to why Clint bothered, beyond perhaps a habit he’d learned as a child, downplaying his intelligence as a coping method to surviving whatever horrors his childhood had contained.

“You are in possession of such a ‘key’?”

“Not as such,” Natasha admitted as her fingers flew across her keyboard, line after line of code appearing on the monitor, each as foreign to the chemist as the last. “But I do have brute force and determination. When a kind word doesn’t work, a hammer will do the trick.”

“It’s a sexy combination,” Clint opined, only to have the hand making its way up Natasha’s thigh ruthlessly slapped away.

“Busy.”

“Do not distract Miss Natasha from her goal. If my Jane sent such a thing, it is of great import. We must determine what she has sent.”

“What is this we, kemosabe?” Natasha asked with a particularly harsh jab at the keyboard and a huff of annoyance when it didn’t result in the image revealing its secrets.

“Ooh, want to play, do you?” Narrowing her eyes, Natasha opened a new folder on the drive she’d inserted, clicking through the directories with such speed that Clint felt he was going to go cross-eyed trying to keep up. The program she began to run was way beyond his comprehension, being more of a Playstation kind of guy, but even he could recognise code when he saw it.

“That is like no hammer I have ever known,” said Thor.

“More useful though. At least in this situation.”

The screen suddenly filled with line after line of…

“Maths formulae? This mean something to you?” Natasha swivelled in her chair to face the two men. Thor stood and leaned in as did Clint, all three crowding the screen.

“Yes. Yes, it’s a course manoeuvre for Valkyrie. It’s called the Avengers Initiative.”

“It’s called what?”

“I have not heard of this manoeuvre…” Thor trailed off as he scanned the screen. “It’s complicated, very complicated…Sol 549? Herregud!”
Much of the time that they had to themselves, the Ares 3 crew spent in groups in the Rec Room which was a fancy term for a small room with a table just large enough for all of them.

Thor was standing by his seat as he addressed the rest of the crew about what Jane – or someone else given how the email had someone evaded the stringent filtering that NASA carried out on their communication- had dispatched to him.

“…and then the mission would conclude as we return to Earth, with Barnes, two hundred and eleven days later.”

Rogers nodded his thanks as Thor sat back down; Thor and Natasha had already run through the manoeuvre twice with him before he’d okayed assembling the rest of the crew to really hash it out.

“Today’s already been full of so many surprises that my brain literally cannot comprehend the words coming out of your mouth right now. Bottom line it for me,” requested Clint.

“We can carry on home or we can disobey direct orders, flip a bitch, force NASA to support us and go get our boy.”

Clint turned to Steve, gesturing lazily towards Sam. “Now, why couldn’t you just say that?”

Steve heaved a sigh. “Are you in or-”

“Oh I was in before you started talking, I just wanted to know what the fuck I was in.”

Sam swivelled his chair towards the doctor, eyes narrow and head cocked to one side. “How the hell did you get into the programme?” He asked, a smirk on his lips.

“Devilish smile and awesome biceps.”

Beside him, Nat’s eyebrows rose as she nodded in agreement.

“And an ass that won’t quit.”

Nat’s smile broadened.

“Don’t wanna know, pal.” Wilson turned back to the Commander. “This would work?” He asked.

“Indeed. I have run the numbers twice. My Jane is quite brilliant. The course is sound.”

“How would Bucky get off Mars?”

Natasha took over. “According to the message, he’d have to travel to Ares 4 and modify the MAV to achieve escape velocity.”

“Bucky Barnes, Space Pirate,” Clint chuckled.

“What of supplies?” Sam asked.

“NASA is preparing another presupply, and we’d intercept it, rather than it be sent to Mars. Whoever sent this to us, they don’t have faith that a 2nd probe will be any more successful than the first.”

“So that’s why all the cloak and dagger, huh?” Clint mused.
“NASA rejected this idea. Fury’d rather take a large risk with the second probe than a small risk with us all. Whoever sent this-” Steve pointed to the panel with the course projection, “disagreed with that assessment.”

“My money’s on Stark, Rhody, or Jane,” Natasha offered, the rest of the crew nodding agreement, Thor coughing Jane’s name into his fist a couple times before grinning proudly at his crewmates.

“We do this, and we’re going against NASA, right?” Sam said.

“Yes,” Steve confirmed. “That’s exactly what it’d be. We do this, we force their hand into sending us the probe with the supplies, or we die.”

“And are we doing it?”

Sam, Clint, Natasha and Thor all turned to their Commander.

“You all know where I stand. We’re not perfect, and neither is the plan, but I believe the safest hands are still our own. Of course I want to. But this can’t be my decision alone. NASA considered this course of action too dangerous. We take that choice away from them, and it’ll be mutiny.

“We do this, it’ll be because we all agree, and before you say yes,” he pointed at Clint, “think of the consequences; we miss the pre-supply, we die. We screw up the manoeuvre, we die. We do everything perfectly, we’d be in space for an extra 533 days. Anything could fail; Valkyrie is overhauled after every mission. We’d be pushing her past her limits and we’re without our engineer. We run into something we can’t fix, we all die.”

“You’re so dramatic, Rogers,” Clint admonished.

“We’re gonna go after him, get him back,” Sam declared.

“Not unless everyone-”

“I’m with you.”

“Don’t be so quick,” Rogers responded. “You’re military like me. There are consequences to our actions. You could be court martialed. And the rest of you – you’d likely never get sent up again. Besides, NASA believes that Iris 2 will be successful in -”

“They’re wrong.”

Turning to Sam, Steve watched as the pilot uncrossed his arms and sat forward in his chair, one finger poking at the screen atop the table, the hologram of the Wakandan built boosters rotating lazily. It really was a work of art, the technology beyond anything Sam had ever seen before as he traced his finger along the shimmering edge of the projection, stroking down the length of the rocket. He ignored Barton’s childish snigger.

“It’s not going to work. It didn’t work then and it won’t work now. Stakes are too high for this shit. We’re going back. I – we left him there and we’re bringing him home.”

Sam leaned back, crossing his arms over his chest and smiled.

“We all have our differences, and we’ve all got our roles to play and lives to live. But at the end of the day, we’re all friends. More than that, we’re family. There’s a connection between us, that binds us together that most people can never hope to understand. We gotta go get him. I know which way you’re leaning. Captain America is gonna need my help to go get his boy. No better reason to do
this. Fuck the consequences. I’m in.”

Steve nodded his thanks. Once Sam’s mind was made up, no force in the universe was going to change it.

“My Jane would not send this move if she did not consider us capable. If we do this, we shall have spent more than 1000 days on our voyage. Three years in space is more than enough. I have no need of another trip to the stars.”

“Sounds like an ‘I’m in’ to me,” Sam cheered. “Besides, it give’s your Jane her trip to the Heavens or Asgard or wherever.”

Clint didn’t bother explaining his reasons, sticking to a simple, “We go. If they force me out? So fucking what, I’ll find something to do.”

“Could take up golf like every other doctor alive.”

“Nah,” Clint shook his head. “I tried once. Most boring hour of my fucking life. Played eighteen, shot eighteen, didn’t see the point. The bar was decent, though. Fucking overpriced but whatever, not my problem.”

They turned to Natasha.

“Thor and I are sure it’s going to work. Besides, I couldn’t live with myself if I didn’t try.” She swivelled her chair towards Steve. “Let’s go get your boy.”

“He’s not my-” Rogers stammered, cheeks pinking.

Sam spared his blushes.

“What do we have to do?” He asked Thor.

The man shrugged. “I plot the course. I enter the course. I execute.”

“That’s it?” Clint asked, dubious.

“That is, as you say, it.”

“What else?” Rogers asked.

“I’ll need to disable remote override,” Natasha answered. “It’s designed to allow NASA to pilot Valkyrie remotely in case we die,” she said bluntly.

“Anyone ever tell you that you’re a regular ray of sunshine?” Asked Sam with a grin that Natasha matched.

“Can’t we just override their override?” Clint asked, his faith in Natasha’s abilities clear.

Natasha looked thoughtful, focusing on the opposite wall as she worked it through in her head,
mumbling to herself.

“Valkyrie has four redundant flight computers. Each one of those is connected to three redundant communication systems. If any of the computers gets a signal from any comm system, Mission Control can take over.”

“The last few weeks have been full of many surprises, ‘Tasha, and I need you to take some fucking mercy on my brain. What are you saying? In small words.”

Rolling her eyes at Clint, Nat continued. We can’t shut down comms: we’d lose telemetry and guidance. Can’t shut down the computers: we’d lose control of Valkyrie. I’ll have to disable the remote override on each system…” She lapsed back into barely audible mumbling.

“…part of the OS… I’d have to jump the code… maybe write a get-around… Yes. Yes, I can disable it.”

“You’re sure,” Rogers pressed. “You can do it?” Everyone at the table heard the hope in his voice.

“Won’t be hard, but won’t be fast either. The override is, however, an emergency procedure and the programmers never expected those on board would try to stop Houston taking control. As such, it isn’t protected against malicious code.”

“Malicious code?” Thor asked and Clint crowed.

“Black Widow bites again!” He whooped as he thrust his arms into the air.

“You’re going to be hacking?” Steve asked.

“Shall we play a game?” Natasha retorted, arching one perfect brow. When he just stared at her, she continued.

“It’s from a mov-”

“I saw it.” He grinned, sudden and disarming.

“You’re sure about this?” He pressed.

“Yeah, it’ll be fun.”

“Black Widow?” Sam asked, curiosity lacing his tone, one eyebrow arched.

“My hacker handle,” Natasha answered with what could generously be called a smile.

“All right,” Steve interjected, but Sam wasn’t to be interrupted.

“Dude, the woman just admitted she took her handle from a deadly spider and you don’t want to know more?”

“Sam.” The pilot raised his hands in surrender, but mouthed the words ‘we’ll talk’ at Nat.

“Looks like we can do it,” Steve said once he had their attention once more. “But I don’t want anyone making hasty decisions because they think I want them to. We wait 24 hours. We have that much time before we’d need to implement the Avengers Initiative. In that time you can change your mind. You email me, you come to see me and I’ll call it off. I’ll never reveal who it was.”

He stayed as the others filed out. As they left, he noticed they were all smiling, Sam and Thor
playfully wrestling down the narrow hall, and Natasha practically bouncing with Clint at her side.

It was the first time in months that they’d been like their old selves. Steve knew nobody was going to change their mind. He knew what was running through each and every one of his crew’s minds.

That you couldn’t save everyone. But that didn’t mean you just gave up.

They were going back to Mars.

Between the hours of 1am and 9am Phil Coulson was in charge of Mission Control. He was a company man through and through, rising through the ranks swiftly with his intelligence, dedication and skills. He was well respected by both his superiors and his subordinates, and each department ran their own books as to when he was going to be awarded his first mission run.

Directors Fury, Banner, Rhodes and Stark were expressly forbidden from placing any bets due to the consideration that they had insider information, but that hadn’t stopped Stark from placing multiple bets by a variety of proxies in his department, taking the first win when Coulson had been named Under-Director of Mission Control for the Ares 4 mission.

There’d been uproar once he’d been revealed as the winner, and he’d only narrowly being brained with a skateboard by Wade because he spent the winnings on a blowout BBQ.

It was 3am when a slightly concerned voice crackled over Coulson’s headset. The techs for the different department sat peppered throughout the room, no more than fifty feet from Coulson at all times but they followed procedure and rather than yelling over their station, they radioed each other.

“Uh, Flight? CAPCOM.”

“Go, CAPCOM.”

“We’re receiving an unscheduled status update from Valkyrie. We are not expecting such an update for a further four hours.” Valkyrie was still far enough from Earth to result in a 90 second delay in communication, making live audio or video communication impractical. Communications to and from the ship still relied on text based messages.

“What’s it say CAPCOM?”

“Well, uh, Flight, that’s the problem. I don’t understand it.”

“It corrupted, CAPCOM?” Coulson asked, patiently, turned towards the CAPCOM station.

“Uh, negative, Flight. It’s uh. Well, I don’t know what it is.”

“CAPCOM, how about you just read it out?”

“Houston. Be advised: Avengers Assembled.”

“That’s what it says? You’re sure?”

“I can read, Flight,” came the droll reply.
“Okay, thank you for that, Mr. Peterson. If you could put the snark back where it came from.”

“That’d be your desk, Sir.”

“What the hell are they doing up there? They bored?” Coulson mused.

“Flight? Telemetry. I got something to add.”

“Sure, why not Telemetry, dogpile on.”

“Valkyrie is deviating from course. There is no course correction from automated systems. Repeat, Valkyrie is off course and not correcting.”

“CAPCOM, advise Valkyrie they are off course and to run diagnostics on Nav Systems.”

“Negative, Flight,” Telemetry interrupted. “This is not drift or a malfunction. Systems report deliberate onboard override.”

“CAPCOM, get Rogers on the line. Ask what the hell they’re doing.”

“Roger, Flight. Message sent.”

“All stations, review logs of previous shift. For all we know, a course correction was requested and nobody thought we’d want to know.”

“Yes, Sir,” came a chorus of replies as Coulson removed the cell phone clipped to his belt, scrolling through the contacts to Fury’s personal number. He held off pressing the ‘call’ button just yet.

“Guidance.”

“Roger, Flight.”

“This new course. Will they miss Earth?”

“Working it out now, Flight.”

“CAPCOM?”

“No reply from Valkyrie, Flight.”

“Right now, we have more important problems – Who, or what, the hell are the Avengers?!”

He pressed the call button.

Tony was remarkably unruffled at having been hauled out of the bed he’d only crawled into the hour before, and was settled happily into the butter-soft comfort of Fury’s couch.

The man in question stood before him, arms crossed over his chest, his face devoid of any clue as to his mood. His body language, however, radiated pure, unadulterated ‘fuck you and the horse you rode in on’.

It’d been the better part of a day since the foursome had gone rogue and sent the Initiative to the Valkyrie and the time had afforded Pepper with opportunities for soul-searching about her decision –
only some of which she’d actually taken, and presented Tony with numerous opportunities to act morally superior – all of which he had taken.

Now seemed like the *perfect* time to take another opportunity. He wouldn’t want Fury to feel let down after all.

“Looking good, Director. New moisturizer? Pepper swears by Elizabeth Arden, but me, I’m all about the spa down on Shepherd Drive. Does an amazing facial…what those women can do with mud.”

“I try to look my best for you.”

“I appreciate that, and I’m sure the ladies of NASA do too. You’ve got that whole scary, pirate ‘I can kill you and make your loved ones believe you never existed’ thing, and I’m sure there’s a scary woman out there—”

“After all these years, do you think this amuses me?”

“-and I’ve learned my lesson with the whole casual Friday thing I had going-”

"That’s your problem, Stark."

"One of many," Tony fronted. “My issues have issues.”

“I know what you’re thinking here, Stark.”

“You sure about that? You a mind-reader now? Is this a *Men Who Stare At Goats* situation?”

"You always think you know best. _Always._ Fuck what anyone else thinks, fuck consequences, it has to be your way because you think you’re so much smarter than the rest of us." Fury stood, planting his fists against the table and leaning over, the leather of his coat creaking as it was stretched across his shoulders.

“Disavow yourself of that notion. You are not a god, Mr Stark, and you will refrain from believing yourself to be. The decision was mine and it was final. Just as this decision was mine.”

“You waited for me to come to you, to teach me a lesson?”

“I’d ask you a number of increasingly angry questions, if I didn’t think I’d only get answers I could use to fertilize my fucking yard.”

Tony made a show of smirking as he stared back at Fury.

“Ooh, I know that tone of face. Am I about to get a spanking? Because I don’t know if I’m man enough to be okay with the reaction I’m going to have, even if it is your hand instead of Pepper’s—”

“I’d ask you if you have any concept as to the ramifications of your actions, if I didn’t think you don’t care.” Fury took a step closer, heavy boots near silent on the thick carpet and the hairs on the back of Tony’s neck stood up and he had to fight to keep his shoulders relaxed. Years and years of coping with his father’s mercurial moods had prepared Tony all too well for this moment.

He could fake it ’til he made it like a champ.

“You know what keeps going through my head? Like right now?” Tony asked.

“I’d even ask why you did it, but I think we both know why.”
“It’s ‘where’s my bed?’”

“So I want to know how you did it.”

“Did what?” Tony asked sweetly. “Ordered that box of speciality items for you and the lady, or ladies, of your choice to enjoy? I know I had to estimate the right sizes for the some of the toys, but you know, you gotta push your boundaries sometimes and just-”

“You know damn well what I’m talking about. The Initiative.”

“The Avengers Initiative was scrapped. I was made very clear on that.”

“And yet, somehow, millions of miles from here, Valkyrie seems to be carrying it out. Funny that.”

“Well, Point Break is an astrodynamicist, guess he crunched some numbers.”

“Stark, I don’t think you realise how serious I am about this.”

“Is there anything you don’t take seriously?”

“You.”

Tony’s eyebrows raised, but he said nothing.

“You know what’s insulting? That you’re not even bothering to try to lie well.”

“I assume you have proof for these allegations? Ah, no, of course you don’t which is why you’re trying to intimidate me into confessing, by trapping me in a small room alone with you and no witnesses. I should warn you, I’ve had hangovers that were scarier than this. Maybe I stuck my neck out, maybe I didn’t.”

“Your neck is your concern, not mine. But stick it out any further, might not get it back.”

“What, are you going to huff, puff, and blow my house down?”

"I'm going to expect your resignation. My desk."

"If, and I stress if, I did do this, saving his life would be more than worth it.”

Tony forced himself to slouch further back into the cushions, his ass at dire risk of falling down the back of the cushions he was sitting on.

“Shouldn’t we be working on the pre-supply? On getting Barnes to the MAV?”

“Now you’ve committed us to it-”

“Allegedly. Allegedly committed us. Besides, right about now, Pepper will be in the Press room. She’s making an exciting announcement.”

“You didn’t.”

“Me? I’m not the one that woke the entire Potts-Stark residence with your early bird wake up call. You know she likes to keep ahead of the game; control the message and you’ll control the media. Frighteningly efficient, that woman. It's almost unbearably sexy.”

“Is that what you think what you did was, efficient?”
“I think that if I had anything to do with what’s happening, I’d call it proof that Tony Stark has a heart.”

“They die, Stark, and it’s on you.”

“But you know something? I’m okay with that.” It wasn’t entirely true, but he could live with it a hell of a lot easier than the alternative. He’d rather he live forever with the suffering and know they tried, than the crew blame themselves for the rest of their lives. It was simple math; better one man suffer, than six.

Just math.

“That’s what makes us all different, Fury. I am willing to take a risk to save lives. Guess the crew is too. If we weren’t, it’d make us you. Everything I’ve done, everything I allegedly did today, everything I’ll ever do while they’re up there, is in the best interest of my crew. Someone once told me that with great power comes great responsibility. That’s usually thought of as a lesson for children. A simple injunction to do the right thing. But there’s nothing simple about it. When I took on this job, I took on maybe more responsibility than my heart can truly bear. But today… if I did what you’re accusing me of, then all I did was do my job. I will protect that crew. No matter what it takes. No matter the consequences.”
Consequences

Chapter Summary

With Tony and the Mutiny committing NASA to the Initiative, forces outside NASA work to enforce consequences upon those presumed to have been involved in the data leak. Back in Houston, another team, led by Tony (who Fury wants as far away from The Hill as possible) and Rhodey try to figure out how to get everything that Barnes needs into two rovers, like a giant game of Tetris.

Chapter Notes

This is probably the last update for a few weeks - I go into hospital on Monday for three weeks and the internet there is pretty much non-existent. I also won't be taking my computer (had shit stolen before so nope on that) so while I will be taking a print out of a couple chapters to work on, I likely won't be able to do any research. I have also been feeling a little bleh on the writing front (oh the irony of getting so close to the end and running out of steam) so we'll just have to see how it goes, but chances are high that I won't post a new chapter for three weeks.

Valkyrie Incident

Friday 9th May 2036. US Senate Committee on Aeronautical and Space Sciences.

The committee met in executive session, pursuant to notice, at 2 p.m. in Room 436 Russell Senate Office Building, Senator Yen (Chairman) presiding.

PRESENT: Senators Yen, Hawley, Stern, Malick, Singh, Rockwell, and Pierce.
ALSO PRESENT: Nicholas J. Fury, Director of NASA; Doctor Jane Foster, PhD; Doctor Helen Cho, M.D.; Virginia ‘Pepper’ Potts, Press Director for NASA.

The following testimony was taken in executive session. The record was reviewed and the committee could not agree without objection to its publication. However, the National Aeronautics and Space Administration interposed no objection to its publication, therefore with the exception of minor editorial corrections, if the objection is waived, the session will be printed in its entirety.

The committee is charged with the specific task of establishing the probable cause, or causes, of the Avengers Initiative Manoeuvre Incident. As has been noted in a memorandum last night by Senator Hawley, it is expected that determining the cause will require detailed and painstaking evaluation of the physical evidence – that is of both the systems and staff involved
in Senior Management and within the Avengers Initiative Manoeuvre.

The committee is also charged with reporting its findings as to the cause of the incident as expeditiously as possible; it is further charged with developing recommendations for corrective actions based upon those findings. We have already, as a committee, discussed the continuation of manned space flights, with particular attention to future Ares Missions. As all members should be aware, the Ares 4 MAV is in place at the Ares 4 site, and the 14 unmanned supply probes are being prepared, but they have yet to be launched, and so should it be the findings of this committee that the Ares personnel issues within NASA are too numerous of insidious to correct, and the Ares Program is shut down, it would be advantageous that that occur sooner rather than later to mitigate the financial impact.

**Memorandum to: REDACTED**
From: Senator Hawley

I spent yesterday at the Johnson Space Center with the key personnel under investigation for the causes and circumstances around the Avengers Initiative Manoeuvre incident. While I believe that I have been able to rule out certain members of staff, the retracing of possible, then probable, chains of events is a complex task that shall demand the complete attention of the review committee.

All physical and digital records were impounded immediately after Under-Director Phillip Coulson alerted Director Fury that *Valkyrie* had altered course and ceased communication. This was to ensure no pertinent information could be lost or potentially destroyed. The preliminary investigation into that data has yet to provide any direct indication of the person, or persons, responsible for the leak.

**OPENING STATEMENT**

[S. Stern]. This is the first meeting between the National Aeronautics and Space Administration (hereafter referred to as NASA) and this board since the appalling events two days ago on the 7th of May 2036. I will take this opportunity to bring the committee up to date on the NASA investigation to review the following;

- The basic decision, by an individual/individuals at NASA, to send, without authority, an untested manoeuvre, to *The Valkyrie*, circumventing the safety procedures in effect
- The circumventing of protocols in communication with *The Valkyrie* in order to send this data, to an emotionally invested, and thus compromised, crew.
- Changes contemplated in the Ares Program and space exploration as a whole as a result of this incident, and the greater matter – the ‘loss’ of James B. Barnes, including changes in testing procedures, schedules and costs.

In addressing the question of the next step to be taken in the Ares program, I would like to make clear my own very deep concerns over the tragic accident which left an American alone on Mars. I, and no doubt every other person in America, am keenly aware of the risks inherent in space flight.

[D. Fury]. Every crewmember or AsCan will tell you they are aware of the risks, accepted them, and proceed conscious that shit might happen.
[S. Pierce]. That chaos is good enough for you?
[Dr. Foster]. We’re dedicated to taking every step humanly possible to maintain the safety of these flight crews.
[Chairman Yen]. Doctor Foster, please wait until you are called upon.
[Dr. Foster]. My apologies.
[Chairman Yen]. Accepted.
[Dr. Foster]. I wasn’t aware I was back in school. Do I have to raise my hand too?
[Chairman Yen]. Settle down. All of you. The witnesses will wait to be called upon-
[S. Stern]. Thank you. Now, I have some questions-
[Chairman Yen]. –and committee members will remember why they are here, and that it is not to grandstand, testify, or indulge in a witch hunt. To that end, Senator Hawley, the floor is yours.
[S. Hawley]. I wish to emphasize to those in the committee and the witnesses before it, that this committee does not want to interfere with the work of NASA’s board of inquiry and as we see it now, we will not do so. There are, however, many aspects of the incident and the Ares Program that can be discussed without hampering the work of the board of inquiry and it is the responsibility of the committee to develop the facts surrounding this situation as swiftly as possible. We all have other things to be doing. Suggested procedures and guidelines for the committee, with respect to its initial handling of the investigation into the initial incident at the Ares 3 site several months ago, were issued to all members, starting with Senator Stern, in January of this year, and no adverse comments regarding those guidelines have been received, therefore, the committee must consider those guidelines as operative.
[The Chairman]. You may ask your question now, Senator Stern.
[S. Stern]. About time. I notice a number of key personnel, and perhaps perpetrators, are missing from the witness list. Why are these members of your agency above suspicion, Mister Fury?
[D. Fury]. This committee was compiled quickly. Contrary to your belief, you are not the centre of my universe. Nor that of my people. I have bigger problems in the south-west to deal with. Someone has to stay behind to look after the kids.
[S. Stern]. You and Stark. You think you’re above the law.
[D. Fury]. What law are you suggesting was broken?
[The Chairman]. People, people this is not a witch hunt. Let’s start at the beginning.

Tony, Rhodey, Bruce, Kate, a handful of engineers and specialists, and – inexplicably – Miles Morales who Rhodey was beginning to suspect never actually attended school and might actually have moved into Tony’s mansion. stood in the middle of what looked like a hurricane’s wake, but was in fact a hastily compiled heap of everything Barnes had up in the Hab, as well as a bunch of empty cardboard boxes with the words ‘food’, ‘clothes’, ‘tools’ to stand in for the other items Barnes would need to find space for, and of course, a stack of solar panels.

More specifically, it was a heap of everything he had to take with him to get to Schiaparelli alive.

“What we have here is an Oregon Trail situation.”
“Huh?” Kate and Miles turned confused expressions towards Tony, and more than a few of the engineers did the same.

“My God, you’re zygotes.”

“Tony.”

“My liege?”

“You’re on shaky ground, so would you get to the point?”

Tony shot Rhodey a wink and swept to the front of the group, scaling one of the smaller piles of extraordinarily expensive technology, much to the horror of one of the specialists, the young woman darting forward a step or two as though to bodily pull the Director down from his perch atop what Kate recognised to be three of the Hab’s batteries.

“For all you philistines out there, Oregon Trail was a computer game that required you to think ahead, be tactical, and traumatised more than a few of my less intelligent classmates.” Tony patted his hand against the edge of the battery. “We have to find a way to Tetris all of this into two rovers with enough room left over for Barnes, food, clothes, and a very real feeling of despair.”

“Tony.”

“Oregon Trail taught me to be realistic, Rhodey.”

“Shut up, Tony. And get off the damn equipment.”

“Not the first time I’ve heard that,” Tony quipped as he pushed himself off, landing with a clatter on top of something that made the specialists wince.

“I’ll replace that.”

“Aren’t we missing something?” asked Kate, peering into the murk that was the warehouse.

“Hmmm?” Tony had procured some duct tape from somewhere Kate didn’t want to know about, and was busy fending off another engineer, taping back together whatever it was he’d snapped in half.

“Rovers? If you want us to ‘fit this into that using nothing but this’, then we kinda need the ‘that’ in question.”

“I’m glad you asked, Katie-Kate.”

Two of the prototype rovers, dented from their time in Utah, and ripped apart by enthusiastic engineers prepping for informing Barnes how to modify his own, came barrelling into Warehouse 17, two large bullhorns attached atop the lead vehicle blasting out ‘Careless Whisper’ loud enough to cause Kate’s ears to bleed.

“Who let Wilson in on this?!”
[S. Hawley]. Director Fury?
[D. Fury]. Ma’am.
[S. Hawley]. At the time of the incident, is it true that the majority of NASA’s and JPL’s Senior Management (charged with the execution of the Ares Program in general, and Ares 3 in specific) were meeting, and not for the first time, in regards as to how to proceed re continuing with the original plan, or to implement the manoeuvre suggested by Doctor Foster?
[D. Fury]. No, ma’am.
[S. Hawley]. You are denying that any such meeting, or meetings, occurred?
[D. Fury]. Those meetings occurred, but they had been completed by the time of the communication with Valkyrie.
[S. Hawley]. What was the result of those meetings?
[D. Fury]. In my position as Director, I decided to proceed with the original rescue plan.
[S. Hawley]. To send the probe to Mars via the Kimoyo Prime and use the Ares 4 MDV to collect Barnes?
[D. Fury]. Yes.
[S. Hawley]. You rejected the Avengers Initiative Manoeuvre (hereafter referred to as AIM).
[D. Fury]. Yes.
[S. Malick]. Why?
[D. Fury]. That should be obvious. Sometimes you have to potentially sacrifice a player, to save the game.
[S. Stern]. Yet AIM was implemented.
[D. Fury]. Obviously.
[S. Stern]. An initiative you rejected was, on your watch, implemented without approval.
[D. Fury]. It was the superior choice.
[S. Pierce]. A decision you came to after the choice was made for you with the incident and Press Director Potts’ press conference, no doubt
[The Chairman]. Director Potts, I have questions concerning NASA’s press conference and subsequent press release in regards to AIM. You kindly advised myself by phones to the content, however it seems to me that the committee and committee staff would have benefited from the actual document, and that it should have been made available to the committee the moment it was announced. Were you aware of the delay, Miss Potts?
[D. Potts]. I regret the delay, Senator. I was only made aware of the delay just before arriving to the hearing.
[The Chairman]. I hope, Miss Potts, that these examples of communication are isolated incidents and not indicative of the type of co-operation we can expect from you and NASA as a whole.
[D. Potts]. No, Sir.
[S. Hawley]. Miss Potts, you were present at the meetings about the AIM procedure?
[D. Potts]. Yes.
[S. Hawley]. Who else was present?
[D. Potts]. Doctor Banner, Director Stark, Director Rhodes, and Director Fury.
[S. Hawley]. What about Doctor Foster?
[D. Fury]. She wasn’t at either meeting.
[S. Malick]. Why not? Surely she is the foremost expert on the manoeuvre.
[Dr. Foster]. I had a separate meeting with Director Fury.
[S. Pierce]. You’ll forgive my impertinence, but you had no part to play in the rescue of James Barnes, did you Doctor Foster?
[Dr. Foster]. Not officially, no.
[S. Pierce]. Yet at the eleventh hour you provide Director Rhodes with AIM.
[Dr. Foster]. I was taught by a great man to always push to chase down every possibility, every alternative.
[S. Pierce]. While my understanding of the manoeuvre and all it entails is limited, my concern in looking over the report you submitted, Doctor Foster, is that it seems more like you sold the agency on a magic trick.
[Dr. Foster]. Arthur C Clarke said it best, Senator. ‘Magic's just science we don't understand yet.’ I could see an alternative method. A better one. And as you say, you don’t understand it.
[S. Stern]. Or, you’re as compromised as the crew.
[Dr. Foster]. Excuse me?
[S. Stern]. Thor Odinson is your husband.
[S. Hawley]. We’ve rather gotten off track. Doctor Foster, why were you not at either meeting to discuss the legitimacy of using the AIM proposal?
[Dr. Foster]. I had walked Director Rhodes-
[S. Stern]. Who also isn’t here, I notice.
[The Chairman]. Senator Stern, I will ask you to keep your commentary to yourself while your colleagues are conducting their questions. Please continue, Doctor Foster.
[Dr. Foster]. As I was saying, I had walked Rhodey - Director Rhodes through the manoeuvre. He was going to call me after the meeting to speak with Director Fury directly. I don’t have the best track record when it comes to presentations. He didn’t want that to interfere with the meeting.
[S. Stern]. If you weren’t in the room, where were you?
[Dr. Foster]. My office.
[S. Malick]. Alone?
[Dr. Foster]. No.
[S. Malick]. With whom?
[Dr. Foster]. My intern, Darcy, was with me, and Doctor Selvig via video conference.
[S. Malick]. Your alibi consists of an employee and your mentor.
[Dr. Foster]. Not exactly.
[S. Malick]. How so?
[Dr. Foster]. Doctor Selvig was joined by twenty-three members of his team. I’m sure they’d all vouch for me.
[S. Hawley]. Doctor Foster. Can you take us through your approach and what it means in terms of time and money?
[Dr. Foster]. At the time of the Zephyr launch, I was conducting trials into launch windows and out of interest I worked out how long it would take if the delivery system for the return to Mars was Valkyrie rather than a probe. I determined that using the Valkyrie significantly reduced the timeframe of Mars return, and potentially significantly reduced the risk to other lives as it required no redesign of the MDV to become an MAV.
[S. Malick]. You’re referring to the work to alter the descent vehicle to lift-off from the Ares 3 site to travel to Ares 4.
[Dr. Foster]. Yes.
[S. Malick]. Won’t the Ares 4 MAV require alteration?
[Dr. Foster]. Yes. But the modifications will be significantly fewer than the previous plan, and far more importantly, Barnes will survive long enough to make them.
[S. Pierce]. Senator Hawley, would you mind if I interrupted for a moment, I have a question for Doctor Cho based off the assertion Doctor Foster just made.

[S. Hawley]. If you must.

[S. Pierce]. Thank you. Doctor Cho, you are the first contact on the ground for Doctor Barton, is that correct?

[Dr. Cho]. Yes.

[S. Pierce]. And since communication has been re-established with Barnes, you’re essentially his doctor.

[Dr. Cho]. Also correct.

[S. Pierce]. Doctor Foster just claimed that Barnes is more likely to be alive when the Valkyrie returns to Mars than when the probe with supplies would. In your professional capacity as the crew physician and taking into consideration Barnes’ current physical state, do you consider that to be fair.

[Dr. Cho]. Absolutely, yes.

[Chairman Yen]. Can you elucidate please, Doctor Cho.

[Dr Cho.] Space travel is difficult upon the body. Although Valkyrie has areas of artificial gravity, and Doctor Barton maintains a strict regimen for each crew member to minimize the spaceflight osteopenia-

[S. Stern]. The what?

[Dr. Cho]. Skeletal deterioration, loss of bone density.

[Chairman Yen]. Please continue.

[Dr. Cho]. Besides the bone loss, there’s other adverse effects from the weightlessness – muscle atrophy, most concerning is cardiac atrophy which leads to impaired functionality of the heart and episodes of cardiac arrhythmia. Barnes has mentioned sustained episodes of palpitations and light-headedness. My own studies, using data from the original Mir missions up to Ares 2, suggest that cardiac atrophy may be progressive, meaning that if Barnes were to remain on Mars for the four years, even if he had all the food he needed, his heart muscle might be so damaged that returning to gravity may actually kill him, if he didn’t have a heart attack in the Hab before then. Radiation is another grave concern: outside of the Earth’s magnetosphere, the crews are mostly protected aboard Valkyrie, though during solar flares, they often seek greater shelter in areas of the ship that have greater shielding. The Hab, has a degree of shielding, but it was never intended to protect a crewmember for such a long term. The damage of this radiation is still being studied, but it’s possible that it could penetrate the living tissue and into the bone marrow, creating problems with blood and immune system. Barnes’ immune system will already be weakened by his time aboard Valkyrie but if the radiation weakens it further, exposure to the Ares 4 crew could, quite literally, kill him. That’s just the regular radiation levels. Six months before the arrival of the Ares 2 crew, the levels of radiation on the surface of Mars temporarily doubled due to an unexpected solar storm. We have no way of predicting these events or knowing just how detrimental their effect on Barnes’ health may be.

[S. Pierce]. Is that all?

[Dr. Cho]. No. Space travel is also associated with disorders of eyesight and balance. There are changes to the shape of the eyeball and to the retina on space flight of longer than six months. Barnes has spent nearly double that now in space. These changes cause blurriness of vision, as well as a problems with both short and distance vision. That’s before we get to Barnes’ already significantly reduced diet. He is, and I’m not exaggerating, barely above the level of starvation. He has lost a significant amount of weight, largely in terms of his muscle
mass. When the probe with his food supplies arrived, he would have had to travel to it, and then load it up onto the rover, return to the Hab, unload it, and unpack it. He struggled in fetching *Pathfinder*, and that’s on the diet he is currently on. If he were to have had to stretch his food supplies to survive to the probe’s arrival, between the effects of the space travel and the starvation, I would state he would have been too weak to drive the rover safely, let alone haul around the probe.

[S. Pierce]. In your professional opinion, strictly as Barnes’ doctor, which plan do you think has the greatest chance of his survival?

[Dr. Cho]. AIM. Without a doubt.

[Chairman Yen]. Is that all, Senator Pierce?

[S. Pierce]. Yes. Thank you for your indulgence, Senator Hawley.

[S. Hawley]. To get back to my original question with Doctor Foster, do you believe that it will not resolve in a major redesign of the capsule itself?

[Dr. Foster]. The MAV will be doing exactly what it was designed to do. We just need it to go faster and higher.

[S. Pierce]. Just?

[Dr. Foster]. As opposed to the incorporation of thrust into a descent vehicle, essentially a procedure change.

[S. Hawley]. I gather from your testimony that you consider the hazard to Barnes to be greatly reduced using AIM over Zephyr 2.

[Dr. Foster]. Absolutely. It also removes the risk to the Ares 4 crew.

[S. Stern]. What about the risk to the Ares 3 crew?

[Dr. Foster]. Valkyrie will intercept the supplies within the probe, so they’ll have enough food and extra spares, tools, etc. The crew has access to the best minds on the ground and 3D printers for tools or spares they might need but do not have.

[S. Hawley]. That they won’t talk to.

[Dr. Foster]. By choice.

[S. Stern]. Your testimony appears to suggest that you have no faith in Zephyr 2 or the modified MDV plan. Is that a fair indication?

[Dr. Foster]. What? No.

[S. Stern]. Would you like to try that again? Aim to be convincing.

[Dr. Foster]. We’ve not yet test flown the modified MDV out of the tunnel. Until we’d found out whether ground testing was verified by flight tests, we couldn’t know the current viability of the plan.

[S. Hawley]. So no major problems in the project that might cause you to lose faith?

[Dr. Foster]. Not to my knowledge.

[Chairman Yen]. Then why create AIM?

[Dr. Foster]. The plan was good. I just saw a better way.

[S. Malick]. An equally untested way.

Several hours later there was no sign of the initial enthusiasm that had infected the group. The heap of Hab-ables was spread across the warehouse floor, with more than one life-giving piece of technology sporting a crack or two, all of which Wade was denying responsibility for. The two
rovers had been hooked up to each other and, to the relief of 95% of the warehouse inhabitants, Wade’s mp3 player had been disconnected and silence, punctuated by considerable swearing, grunting, and the odd whimper from an engineer whenever thousands of dollars of kit was damaged, reigned.

Both rear airlocks on the rovers had been thrown open, and out of rover 1, Wilson’s mutterings were just audible, if never actually understandable. The specialist trainer had become increasingly frustrated and irritable as time had passed, his determination to solve the puzzle, and solve it immediately, grating on those around him quickly.

Rhodey had spread the schematics for the rovers out on one workbench and the stats for the machinery on another, the Director moving between the two with a ruler and notepad, ignoring the mocking jibes thrown his way from Tony, who had set up shop on the opposite side of the warehouse. Thirty minutes into their investigations, the Ares 3 Director had dropped the, thankfully cardboard, box he’d been holding and trying to shove into a space three times too small for it, and stormed out without a word. The group, bemused, had followed Rhodey’s non-reaction and continued on with their word. Stark had returned twenty minutes later, his arms full of computer equipment, three interns equally weighed down trailing after him. After setting up his system and shoo-ing away the starry eyed ducklings – one of whom had even asked for his autograph – Tony had spent a few hours writing a program to create a scale model of the inside of the rovers, every available cubic centimetre of space, along with each piece of equipment and even Barnes himself. He was currently watching the program run through countless permutations of packing orders. So far, he’d yet to find one that allowed Barnes to take all he needed and also fit in the rover himself.

He had, however, introduced the majority of the warehouse to the questionable joy that was Oregon Trail. Kate had died of dysentery twice before she’d tired of Stark’s mocking and stalked off back to help Wilson, which had suddenly appeared to be the lesser of two evils.

Not by a lot, but at least Wade had a passable voice, and sometimes took requests when he wasn’t working through the greatest hits of the 80s. Complete with traumatising dance moves which appeared to mostly consist of thrusting his groin against any vertical surface.

Kate had touched nothing in the rover, instead taking on a more managerial role while eyeing everything with distaste and wishing she had a pack of anti-bacterial wipes.

Still better than Oregon fucking Trail.

It wasn’t until Stark had pissed off half of those in the warehouse with his jeering and mockery that Rhodey challenged him to play the damn game without whatever cheat code he’d been using to best the game time and again.

Stark had returned to his work quietly after that.

The engineers and specialists had split into little cabals, arguments sporadically breaking out as frustration levels rose and blood sugar levels dropped. Kate and Miles – who Tony revealed had been press-ganged into service due to his ‘inhuman strength and carrying capacity’, the reveal of which had Rhodey wondering aloud about child labor laws – had been floating between the various groups, tasked with the actual manual labour portion of the day.

The engineers were currently busy arguing over the logistics of placing the Air Regulator on its side – it was a 3/2 split on that being the stupidest idea since the cafeteria manager had had Funyuns removed from the break room vending machines, which had then descended into a heated argument about which was better, Funyuns or onion rings. Kate had abandoned the group when someone had declared deep-fried calamari to be superior to both.
There was only so much of that nonsense that she could take.

Miles, equally at a loose end, had liberated a blanket from one of the piles that littered the floor and curled into a ball in the corner, snuffling in his sleep in a manner that Kate knew the kid would find mortifying when he woke.

So, what else could she do but slip her phone from her pocket and proceed to capture the adorably humiliating blackmail material for posterity?

All it took was the nudge of her foot into Miles’ thigh – or what she hoped was his thigh given she couldn’t really tell because of the way the kid was contorted – for Miles to jolt upright with a snort of surprise. Kate darted back, hands clenched, not quite sure how Miles responded to being woken up: the guy lived with Tony Stark, who knew what horrific ways the Director had discovered to wake the teen - Wicked Stepmother #3’s favourite of throwing a tennis ball at Kate’s head was probably too simple for Stark’s taste – and Kate wasn’t going to pay the price for that.

Miles sat up, darting panicked glances around, his wild eyes wide and red-rimmed before they settled on Kate. The teen panted for a few breaths as he got his bearings, peering around Kate to the other occupants of the warehouse, shoulders slumping in relief when nobody else appeared to have noticed his nap.

“Hey, you okay?” She asked.

Miles moaned and flopped back onto the floor. He lay there, his hair doing a grand job of impersonating a black haystack, his layered tees askew, a trail of drool drying attractively across one cheek.

The phone was retrieved from her pocket.

When the kid didn’t respond Kate knew that he’d fallen asleep again, and while half of her wanted to let Miles sleep because God knew someone at the agency ought to get some, the other – meaner – half figured that if someone got to sleep it should be her, and if it wasn’t then it didn’t get to be anyone.

Which apparently Stark agreed with. Unbeknownst to Kate, the Director had abandoned his complicated computer setup to its chuntering and, insanely curious, wandered over to discover what was daring to go on without him.

“Whatchya doin’?” He took in the dozing form of Miles. “The young have no stamina.”

“You carried nothing,” Miles croaked. “Everything hurts. Oh my God. This is it. This is the place it happens. This is the exact place I die.”

“Dramatic too.”

“Everything hurts,” Miles moaned again, waving a hand at the two sniggering adults, frowning at their abject lack of care, not to mention lack of dialling 911 for someone so obviously close to dying.

“That’s what you get for being young and strong.”

“As opposed to weak and old?” Kate queried.

“With great power comes great responsibility,” Miles mumbled, nearly asleep once more.

“You swallow a fortune cookie?” Tony asked, a snuffle his only answer.
“Don’t mention food,” begged Kate, rubbing idly at her stomach. Breakfast felt like it’d been days ago and even then it’d been a banana and sachet of questionable peanut butter she’d found in the bottom of her bag.

“Someone mention food?” Rhodey asked as he made his way over, sparing barely a glance at the body on the floor, which Kate attributed to too many decades of friendship with Stark. “I could eat.” He glanced at his watch.

“Shit!”

“What?” Without thinking, Kate reached out and grasped the older man’s wrist, craning it around until she could see his watch.

“Shit!”

“It’s come to something when it falls to me to be the adult in the room, but there is a child present.” Tony gestured to where Miles was working on drooling down his other cheek.

“Aww, they grow up so fast, don’t they?”

“We’ve been at this most of the day. Well, some of us.” Rhodey nudged Miles, who jerked straight upright again, Kate impressed at his ability to do two sit-ups in one day. She didn’t do any if she could help it.

A rumble sounded from Miles and the teen groaned like a soap-opera diva, folding forward and dramatically clutching his stomach.

“Did we have lunch?” He asked, plaintive and pathetic.

“No,” Rhodey and Kate replied, while Tony looked shifty.

“Tony?”

“Yes, dear?”

“Tony, when did you eat? Nobody else has eaten.”

“That’s hardly my fault – well not all my-”

Rhodey coughed and meaningfully jerked his chin towards where Miles was unravelling himself from his blanket and trying to haul himself to his feet.

“And when I picked up my computer-”

“When you bribed interns to carry it.”

“I might have swung by a vending machine or two.”

“You’re an ass.”

“But an ass with cash.”

“Unless I can eat it, that’s not helpful right now.”

“Well, my young friend,” Tony slung an arm across Miles’ shoulders, “I know you’ve been missing a lot of school recently, but if you went to class now and then, you’d have learned that money can be
exchanged for goods and services. Like food.”

“Someone say ‘food?’” One of the engineers asked, and like a gang of meerkats, every other head in the warehouse popped up and turned the way of the quartet, hunger clear.

“Yeah, yeah, we’ll get you some too.”

“Pizza!”

“Chinese!”

“Thai!”

“Italian!”

“You get what you’re given!” Kate bellowed over the din, smiling at the silence that ensued. Which lasted about three seconds before various little groups returned to the business at hand, periodically punctuated by cries of defeat and inspiration.

And the occasional desire for prawn crackers.

Still, Kate felt ridiculously powerful.

“This is how Fury feels all the time, isn’t it?” She asked Rhodey.

“Not around Tony,” Rhodey offered, “and probably not right now.”

“How do you think they’re doing?” Kate asked, telling herself the clenching and roiling of her stomach was entirely due to hunger and not fear at what her colleagues were currently facing. Kate hadn’t been questioned by Senator Hawley when the woman had visited but her station had been secured and searched, backups of her computer data taken as a part of the investigation. It reminded her of the time the FBI had raided her father’s home.

At least this time she hadn’t been wearing shorty pyjamas in a fetching shade of bubblegum pink.

“I think as long as they stick to the cards, they’ll get through.” Rhodey sounded confident, solid and stable, and yet Kate was sure she could detect and undercurrent of fear.

Not the reassurance she’d been after.

“C’mon, sour patch, once more with feeling,” Tony goaded as he watched Miles sway on his feet with something close to concern.

“Shut up.”

“Sir, yes, Sir.”

“Hey, kid.”

“Miles,” Kate hissed.

“Whatever. Wanna make yourself useful, Miles?”

“I’ve been super useful already.”

“Want to make yourself super useful-er?”
Miles’ eyes darted between Tony and Kate before settling on Rhodey who shook his head and shrugged.

“Uh…sure?”

“Call Luigi’s get some pizza?”

“Tony, its 3am.”

“You watching your figure? Danvers is still gonna love you with a little love-handle action.”

Rhodey batted Tony’s hands away from where they were pinching at non-existent rolls at Rhodey’s waist. “Luigi’s is closed.”

“Not for me.” Tony puffed his chest out. “You tell him it’s for me, and he’ll fire up the oven.”

“He’s gonna hang up on you. Right after calling you a dick.”

Tony looked scandalized and thumbed over his shoulder at Miles.

“-tator. He’s gonna call you a dictator.”

“Nice save, Director.” Kate flashed the man a thumbs up, getting flipped off for her trouble much to her amusement.

“Uhhh…” Miles looked to Kate, uncomfortable at the thought of waking a stranger at 3am.

“Hey, and get a few sixers while you’re at it.”

“Don’t do that,” countered Rhodey.

“Sorry, I thought beer went best with pizza, but if your cultured ass wants wine, we can get that too.”

“No wine, no beer, no alcohol.”

“Why?” Tony whined.

“We’re not drinking while we’re working.” Rhodey gestured over to Miles. “And he’s underage anyway.”

“Kate can buy it. He’s just the muscle.”

“No.”

“You are constitutionally incapable of having fun, y’know that?”

“You’re constitutionally incapable of being responsible.” Rhodey sighed and Kate, uncomfortable at being piggy in the middle, had the feeling it was a familiar argument. Clearly today was for all kinds of nostalgia: it was like being caught up in her father’s divorce from Wicked Stepmother Number Three.

“It’s just a nightcap.”

“It’s not happening. Soda or water, but no alcohol,” Rhodey ordered Kate. She watched the moment Tony decided to back down, and it was definitely a decision. Kate recognised the look in the Director’s eyes. It was one she’d worn plenty of times during her dealings with her father. Tony
was choosing to withdraw, but he hadn’t been defeated.

Idly, as she wondered where she was really going to get pizza from at ass o’clock at night, she wondered just what it did take to defeat Tony Stark. Until her eyes fell upon the rovers and the detritus around them, especially the EVA suit which had a picture of Barnes stuck to the faceplate.

She knew all too well what would defeat him.

Which was, she supposed, watching the Director lecture Miles about how crustless pizza was the work of a sick mind, precisely why they were all there.

Reaching into his pocket, Tony extracted a truly phenomenal wad of bills, his keys coming free too, hitting the floor with a dull clunk. Rhodey, seeing Tony was busy counting out a ridiculous number of twenties into Miles’ outstretched hand while rattling off a pizza order, crouched down to pick them up, manfully ignoring the way his knees creaked and protested.

He was surprised the keyring could even fit in Tony’s pocket. Since the last time that he’d handled the man’s keys – not that he missed having to hold his best friend’s body up with one hip, while trying to get a hand into one of Tony’s pockets to get his keys to open the damn door, all while aforementioned best friend drunkenly fought to get back to whatever party Rhodey had picked him up from – a new, and heavy, keyring had been added.

One of a very familiar form.

It was a diecast of The Valkyrie, but someone had added a little plaque on the ring beside it, the engraving clearly new.

‘Proof that Tony Stark has a heart’.

“What’s this?” Rhodey held up the ring, the keys jangling together like he was a prison guard, which wasn’t exactly too far from the truth when he thought about it. Tony’s head whipped around so fast, Rhodey expected to hear the crack of vertebrae.

“Nothing.” Tony stuffed his money back into his pocket with one hand and swiped at the keys with the other, advancing on his friend, who danced backwards, holding the keys overhead.

“Tony,” he wheedled.

“It’s nothing, give it back.”

“What is it?” Miles, money gripped tightly in hand, was trying to peer over Tony’s shoulder as the Director wrestled with Rhodey for his keyring back, losing epically.

“Never you mind, Nosy-Nellie.”

“Tony…”

“It’s just something Pepper gave me before she left, okay?”

Rhodey grinned wide at his scowling friend.

“Shut up.” Tony made another attempt on the keyring, which this time Rhodey allowed, easily letting his friend win back his prize, recognising that no matter what Tony might say, that the keyring meant a lot to him.

“You guys are adorable.”
“Let it go.”

Tony slapped his hands over his mouth and stared wide-eyed at Rhodey before both men, much to the confusion of their younger companions, turned towards the rovers.

“Maybe he didn’t hear-”

“Did someone say-” A box was thrown from the open airlock of the lead rover and Wade’s upper body became visible in the gloom as the man swung himself out onto the runner, clinging on to the side of the vehicle.

“Fuck.”

“What?”

“-Let it go, let it gooooooo-”

[S. Stern]. Now, to the famous Pepper Potts.
[D. Potts]. Present.
[S. Stern]. Does it sting to know that even after all these years, after all your accomplishments, that you’re still cleaning up after Tony Stark’s messes?
[D. Potts]. I do my best to facilitate the work of all the Directors within the agency. Including occasionally taking out the trash. That’s probably why I’m here.
[S. Pierce]. The Avengers Initiative was scrapped.
[D. Potts]. At the time of the press conference, I was not aware of that.
[S. Pierce]. You didn’t know that Director Fury had decided against the manoeuvre?  
[D. Potts]. I was called away from the meeting.
[S. Hawley]. You’re expecting us to believe that in the hours between the end of the meeting and Valkyrie going off-course, nobody appraised you of the situation?
[D. Potts]. I’m not an engineer, I’m not the first port of call. I assumed I would be informed which way things went when I was needed.
[S. Malick]. That isn’t what happened.
[D. Potts]. Oh, really? I didn’t notice that at all.
[Chairman Yen]. Director Potts, please refrain from sarcasm.
[S. Stern]. You’re romantically involved with Tony Stark, are you not?
[D. Potts]. What does that have to do with anything?
[S. Stern]. Answer the question.
[D. Potts]. Yes. Director Stark and I have been in a relationship for over a decade.
[S. Stern]. So if he were to, for example, send the AIM details to the ship against Fury’s wishes, you might help cover for him by holding a press conference as soon as possible, mightn’t you?
[D. Potts]. Excuse me?
[S. Stern]. Your boyfriend is self-obsessed, volatile and doesn’t play well with others or rules.
[D. Potts]. I’ve noticed. Do you have a point, Senator?
[S. Stern]. Would you cover up your boyfriend’s behaviour?
[D. Potts]. When did Director Stark get put on trial?
[Chairman Yen]. He hasn’t been. I must remind you, Senator Stern, that the investigations into the leak have yet to ascertain any suspects. This is neither the forum to make such accusations nor is Director Potts on trial. Do you have any questions for Director Potts that do not follow this vein?
[S. Stern]. I have no further questions for this witness.
[S. Hawley]. I have some, however.
[Chairman Yen]. Proceed, Senator.
[S Hawley.] Director Potts, you stated that until the Valkyrie went off-course you were unaware that AIM had been rejected and that the Zephyr 2 approach was to continue. Yet, according to my own investigation, you called the press in for a conference within ten minutes of the call from Deputy-Director Coulson to Director Fury. You certainly seemed prepared.
[D. Potts]. It’s my job.
[S. Hawley]. Would you care to expand on that answer?
[D. Potts]. There were several hours between the two meetings. During that time I spoke with Doctor Foster and Director Rhodes in order to prepare a statement should Director Fury decide to implement AIM.
[S. Hawley]. While my investigation did not include complete digital records, I did obtain the telephone records within the agency. There is no record of any calls between your office and those of Rhodes and Foster.
[D. Potts]. Nor would there be. I’m good at my job, Senator, and we have a lot of journalists around the agency at the moment. In order to ensure that information did not leak, I forbade anyone within the meetings to contact anyone else in regards to AIM via phone. Any conversation was to take place in person, behind locked doors.
[S. Malick]. Director Stark was at home in bed when Valkyrie went off-course, yet within ten minutes you were in front of the press. Why were you at the agency at that time of night?
[D. Potts]. I’ve been pulling all-nighters on and off since the initial discovery of Barnes’ survival. I’d estimate that it’s more likely to find me at the agency at 3am than in bed.
[S. Pierce]. Yet, Stark was at home.
[D. Potts]. Coulson was on duty.
[S. Pierce]. You don’t have a deputy?
[D. Potts]. Not at this time, I’ve had other things on my mind than interviewing. I’ve been a bit busy.
[S. Pierce]. Director Fury, as we heard from your own Press Director, NASA has been very busy and time-poor. Director Fury, did the schedule for the Ares Program play a role in the speed with which you made the decision to dismiss AIM as a viable plan?
[D. Fury]. No.
[S. Pierce]. No? Suppose that you didn’t have the goal of saving a man on Mars and returning him safely to Earth and his family before he starves to death. Do you think that would have made any difference in the decision you made.
[D. Fury]. Of course.
[S. Pierce]. You admit it?
[D. Fury]. Obviously.
[S. Pierce]. In what way?
[D. Fury]. If that hadn’t been the situation, I wouldn’t have to make the decision. If the situation didn’t exist, I wouldn’t have to make the choice so my decision would be very


different.
[S. Stern]. Chairman, can you please control the witness?
[D. Fury]. You think I made a hasty decision out of desperation?
[S. Pierce]. Perhaps. You made a decision in two hours.
[D. Fury]. You want to know if I’m desperate? You want to know how desperate I am? You talk about a non-invasive and peaceful investigation but you threaten my agency, you threaten my people, you fight funding at every turn. You’ve made me very desperate. You might not be glad that you did. But that particular decision? That was based on facts, figures and experience from other programs.

[The Chairman]. Gentlemen. We are getting off-track again. This committee was compiled to determine the hows and whos of the communication of the rejected AIM data to The Valkyrie contrary to the decision of Director Fury.

“Now is probably a good time to mention that I’m not going to say anything to anyone, or whatever.”

“Mwuh?” Kate spluttered, grimacing in revulsion when a partially chewed chunk of crust fell from her mouth to roll down her top. Which was, of course, white.

Great.

Ignoring how Miles’ serious expression fell away as the teen fought, not that hard, not to laugh, Kate chewed the rest of her mouthful industrially, using a napkin to clean herself up. Swallowing hard, she followed up her super healthy mouthful of carbs with a swig of soda to force it all down.

“Huh?” She tried again, pounding on her chest when her oesophagus complained against the treatment of such large mouthfuls.

The mirth on Miles’ face melted and he grew serious again.

“You know.” He gestured to the warehouse.

“You’re not going to tell anyone about our space Tetris?”

“No.” Miles leaned forward in his chair, motioning for Kate to do the same before he glanced around them. Rhodey and Tony were over by the workbench Tony had commandeered, both men leaning back in their chairs, feet kicked up onto the tabletop, pizza in hand, their conversation an incomprehensible murmur. Wade and one of the older engineers, a sharp-tongued white-haired woman, had someone gotten onto the roof of the lead rover with three of the pizzas that Luigi’s had indeed delivered after hanging up on Kate twice, and a bucket of the chicken wings, and as such were having to fend off a ravenous hoard of engineers that were determined to retrieve their dinner.

It wasn’t going their way so far, Wade alternating between peppering the oncoming gang with the bones from the chicken wings, and trying to demoralize them with singing.

The rest of the specialists were hunkered around Rhodey’s abandoned workbench, a variety of foodstuffs spread out between them in a far more mature fashion, though Kate was sure she could hear the occasional bet on exactly how Wade was going to be brutally murdered.
Nobody was paying attention to Miles and Kate.

“Spit it out.”

Miles sighed, worrying at his lower lip. He looked over at Stark again before taking a deep breath.

“I know Stark sent AIM to Valkyrie and Rhodes probably helped him,” he hissed.

There was a pregnant silence as Kate stared unblinkingly at Miles.

“No he didn’t.” Kate clung to the lie, the party line for the worst kept secret in NASA.

Miles was unimpressed and unconvinced.

“I’m young, but I’m not an idiot. You don’t have to walk on eggshells around me. I know what Tony was gonna say earlier. He feels responsible for us being here. Because he sent AIM.”

“No, he didn’t,” she tried again, her protestations laughably weak even to her own ears.

“Kate.” The ‘don’t treat me like I’m stupid’ hung unspoken in the space between them.

“You never say what you just said again, okay? Not ever. Promise me.”

“Okay.”

“Say it,” Kate hissed, jabbing the kid in the cheek with one sauced up finger.

“I won’t say a word,” Miles sighed, “I promise.”

Kate studied him for a moment; Miles’ eyes, bloodshot and a little watery with exhaustion, were nonetheless earnest. The smile that normally danced at the edges of the teen’s lips was entirely absent, and he was clenching and unclenching his hands as though stopping himself from reaching out to grab her to make her believe him.

“Okay then.”

As though a switch had been flipped, Miles The Teen returned, the kid flopping back in the chair and kicking his legs up to rest on Kate’s lap, laughing a little too hard when she pushed him back off and stole his garlic bread.

[S. Stern]. Mister Fury-
[D. Fury]. Director.
[S. Stern]. What?
[D. Fury]. Director Fury.
[S. Stern]. Mister Fury, are you aware that in the entire history of space exploration there has never been a disaster of category? Of this magnitude?
[D. Fury]. Obviously.
[S. Stern]. In hindsight, do you believe that had you made different decisions, had you controlled your own people better, that this situation could have been prevented?
[D. Fury]. Which situation is that?
[S. Stern]. You have so many that you can’t keep track?
[D. Fury]. I’m a busy man.
[S. Stern]. So these reports indicate. So you don’t believe that this could have been prevented?
[D. Fury]. What could have?
[S. Stern]. The likely deaths of your entire crew.
[D. Fury]. What did you say to me?
[S. Stern]. Are you stating, for the record, that this ‘Avengers manoeuvre’ is not the Hail Mary of a desperate man? One that will likely kill six people?
[D. Fury]. If it works it’ll be seen as a masterstroke.
[S. Stern]. And when it doesn’t?
[D. Fury]. Then at least we tried. Better that, than be a coward.
[S. Stern]. That’s worth the lives of five people? Of billions of dollars of equipment?
[D. Fury]. Now we get to it.
[S. Stern]. Excuse me?
[D. Fury]. You don’t give a shit about my people. You only care about the dollar bills.
[S. Stern]. My duty is to-
[D. Fury]. Yeah, everyone who watches TV is aware of what you think your duty is, Stern.
[S. Stern]. Senator Stern.
[D. Fury]. If you say so. The crew is going to be fine. The Kimoyo Prime will deliver the payload—”
[S. Stern]. Like Zephyr did?
[D. Fury]. That was…unfortunate.
[S. Stern]. That’s how you’re going to describe the total loss of hundreds of millions of dollars?”
[D. Fury]. How would you describe it?
[S. Stern]. Unconscionable, unforgiveable, un-
[S. Stern]. The witness will refer to me as Senator Stern or Senator.
[D. Fury]. Good luck with that.
[S. Stern]. It would behove a man that stands accused of egregious violations of processes to learn to address this panel with respect.
[D. Fury]. Behove? Now I know that you got that toilet paper.
[The Chairman].Director Fury.
[D. Fury]. Chairman.
[The Chairman]. Remember where you are and modulate your behaviour accordingly.
[D. Fury]. Sure.
[The Chairman]. Were you aware of the rumours in regards to feelings that might be present between Commander Rogers and Specialist Barnes?
[D. Fury]. I’m aware of the rumours.
[S. Yen]. And that personal relationships between crew-members is strictly forbidden.
[D. Fury]. Yes.
[The Chairman]. Do you think that said relationship might have influenced the judgement of Commander Rogers in regards to his decision to commit mutiny?
[D. Fury]. No.
[The Chairman]. I beg your pardon? If Commander Rogers is in a rela-
[D. Fury]. He isn’t.
Rhodey stared at his reflection in the mirror, rubbing the back of his hand over the stubble darkening his jaw. It’d been decades since the last time he’d gone this long without a shave and he’d forgotten how much it itched. If Pep thought that him looking tired wasn’t the appearance that NASA wanted to project to the public, the patchy struggle beard that was taking over valuable real estate on his face was definitely not going to pass muster in front of the Press the next day.

This was what happened when you didn’t get to go home for a week because apart from your own job, you were fielding the resident Press Director’s too. Not to mention, Rhodey glanced over at where Kate and Miles were sacked out on his couch top to tail, playing dad to two geniuses who
wouldn’t sleep unless he made them. He’d finally called the day at 4 a.m. when Wade had fallen off the top of the lead rover having fallen asleep mid-sentence. By that point he’d been one of only a handful of the group that had been even borderline-awake, most of the rest spread out where they’d fallen, sprawled over workbenches and floor. Blankets from the heap were spread haphazardly over them all while tub lids, tool bags and blueprint tubes had been utilised as pillows.

Which meant that at some point, a warehouse full of people were going to wake up and wish they were dead. Rhodey had spent a minute wondering if Tony could be persuaded into paying for a bunch of masseuses to come in before he’d nixed the idea. Knowing Stark somehow wires would be crossed and a number of nubile and beautiful women would arrive on site to hand out happy endings.

Which inevitably the press would find out about and Pepper would have him hanged, drawn, and quartered.

Though, Rhodey ran his tongue over his teeth, grimacing at the feel of build-up and remnant taste of pepperoni, that might be preferable to how he currently felt.

“Knock knock.”

In the mirror, Rhodey caught the incredibly welcome sight of Carol in his office doorway, and the even more welcome sight of his toiletries bag in her hand.

“You are an angel.”

“That’s what I’ve been saying.”

Just as Rhodey leaned in for a kiss, Carol winced and turned her head to the side, Rhodey’s lips pressing against her cheek instead.

“Don’t take this the wrong way, hon, but you’re going to need to make use of this,” she waved the kit beneath his nose, “before that mouth gets anywhere near mine.”

“Good call.” Rhodey took the kit and rummaged through it for his razor.

“Have you gotten any sleep?” Carol jerked her chin towards where Miles was cuddling Kate’s ankles, snuffling against one heel.

“Think there were a couple long blinks a few hours ago.” As though the mention of sleep had reminded the man of his lack of it, fatigue washed over Rhodey and he swayed on his feet.

Carol studied him a little harder this time: beneath the scruff Rhodey’s skin had a pallor that was more than just a lack of seeing the sun in too many months, it was pure exhaustion and illness waiting to happen, and his eyes seemed to have an unfocused, too-bright appearance.

“Okay, nope.” The zip on the wash bag burned Rhodey’s finger as the kit was wrenched back out of his hands. “This isn’t happening.”

“Muhuh?”

“You are coming home with me, right now,” Carol drawled as though talking to a child. Or someone three seconds away from passing out and whose brain had therefore thrown in the towel.

“Muhuh?” Rhodey asked again as Carol moved near silently around the room to collect Rhodey’s jacket and briefcase, before tucking herself up against Rhodey’s side, urging him to wrap one heavy
“Man, the Air Force must have had such low standards back in the day,” she teased as she coaxed her exhausted lover out of the room, knocking at the light switch with the edge of the briefcase. “You old-timers miss a few nights sleep and you fall to pieces.”

“Hey!”

“He lives!”

“You don’t hafta take me home, I’m fine,” Rhodey protested when they reached the elevator, but he didn’t drop his arm. Instead he seemed to be resting more of his not-inconsiderable weight against her. By the time they reached the lower parking lot, Carol was practically having to drag her lover along. She marvelled at his strength and stubbornness, they were part of why she loved him, but as Carol propped Rhodey up against the side of his car and rummaged through his pockets for keys, she would have been grateful for a little less of both.

“Well, it’s happening, so enjoy it. The good Lord saw fit to bring me into this world to kick the asses of those that need it the most, and right now, that’s you.”

“You think you’re so special,” Rhodey mumbled as she half-guided, half-pushed the man into the car.

“I am special, sweetheart.” Carol pressed a kiss to his cheek as she reached across him to buckle him in, unsurprised when her response was a light snore. “I’m me.”

[The Chairman]. Earlier, you stated that sometimes you have to sacrifice a player to save the game. Barnes is a liability, returning to Mars with the Valkyrie turns the rest of the crew into liabilities too – their loyalties are not to the Agency. Tell me I’m wrong.

[D. Fury]. You’re wrong.

[[The Chairman]]. So it’s your assertion that the decision to return to Mars was not coerced by Commander Rogers in order for him to rescue his lover.

[D. Fury]. You’re god-damn right it is.

[S. Hawley]. Director Fury.

[D. Fury]. Councilwoman Hawley.

[S. Hawley]. Communication with the Valkyrie has been severed by the crew. How is that possible?

[D. Fury]. Specialist Romanoff has a special skill set.

[S. Hawley]. I see. What is Contingency Pegasus?

[D. Fury]. It’s a recall programme for the Valkyrie.

[S. Hawley]. Under what circumstances can it be used?

[D. Fury]. Total loss of communication with the crew, mental instability, and total loss of the crew.

[S. Hawley]. Mutiny?

[D. Fury]. That’s covered.

[S. Hawley]. Can you explain why it hasn’t been implemented?
[D. Fury]. It is my belief that the Avengers Manoeuvre gives the greatest chance of rescue.
[S. Hawley]. Not because Specialist Romanoff used her skills and training to render the contingency moot?"
[S. Hawley]. Mister Chairman. I think these are very important questions and I would like a repetition of those questions and answers when we return from voting because we must soon wrap this up for the day and can hear such answers now. Similarly I would like to withhold questions until we come back, if you don’t mind.
[The Chairman]. We will ask some further questions now, Senator, as the votes might be pretty close together after a while.
[S. Malick]. I’d like to ask a question before leaving for the vote if I may, Chairman.
[The Chairman]. Go ahead.
[S. Malick]. Director Fury. After reading the report compiled by Senator Hawley and listening to your presentation, one might conclude that this incident couldn’t have happened. Have you narrowed down how it occurred? Do you have any possible suspects that you think could have been responsible?
[D. Fury]. I spoke this morning with Doctor Jarvis who is leading the internal review. His team are analyzing all the digital data now but have yet to determine a source of the transmission. It’s is possible we’ll never know.
[S. Stern]. Convenient.
[The Chairman]. And a convenient place to stop for the vote. Thank you for your time. This concludes the initial hearing. Time and date for the next hearing will be provided within the week. The witnesses are free to go.
Chapter Summary

The crew is now coming back for him, but will Bucky be ready?

Chapter Notes

I have NO idea how payload specialists are approached or how they’re selected. I’m just riffing off the scene in CA:TFA with Steve and Bucky in a bar. I’m 100% certain this isn’t how potential specialists are approached, but maybe it should be ;)

See the end of the chapter for more notes.

Log Entry: Sol 192

Oh fuck me.

They’re coming back.

They’re really coming back for me.

NASA won’t tell me much about it but something about the messages sounded pissed. I dunno what Rogers has done but…

They’re coming back for me.

I expect that sort of dangerous shit from Rogers, and maybe even Wilson, but I thought Nat at least might have more sense. Clint definitely doesn’t but he’ll do whatever Nat tells him to, and it’s hard to tell with Thor. I suspect he’s as bad as Steve. His wife certainly is. You ever meet her, you ask her about the time she broke into a military base because it happened to be right where she wanted to take some readings about some star thingy or other, and they’d denied her access.

She freaking tunneled under razor wire and then scaled a massive wall and took the damn readings she needed, all while being screamed at by some uptight military asshole.

Spoiler alert, I can tell you from my experience with the military, most of the brass are uptight assholes. Not you, Colonel Phillips, you’re a peach.

Honest.

According to Foster, whatever the stars told her that night, it was worth getting detained. You don’t wanna know where she stashed her copy of the readings she took in order to get off the base, given she knew they were gonna confiscate anything they could take off her.

She is never allowed near Steve again. Fuck knows the shit they’d get up to if left to their own devices…Oh God, this was totally her idea, wasn’t it? Whatever the fuck slingshot, cannonball thing
they’re up to, it was totally Foster.

You think Thor’d punch me if I kissed his wife?

Scratch that, forget the Viking, I think she’d punch me. Sure, she’s tiny and looks like a stiff breeze’d knock her down, but…

But this whole K-turn thing my crew pulled means I have got a lot of work ahead of me. Just like I’d planned months ago before NASA got all Nervous Nellie over the journey, I gotta get to the MAV at Schiaparelli. Which I’m kinda relieved about because that whole ‘MDV playing kangaroo’ thing that NASA was playing with before scared the shit outta me.

And guess what? They ain’t even all that scared about me driving halfway across Mars anymore.

Why?

‘Cos what I’m gonna do when I get there is so much more dangerous and stupid than the one we had before.

Valkyrie can’t enter orbit – shes on a fly-by course. I gotta get my ass outta atmo and meet ‘em. We got one shot, and we gotta use it to knock one bullet outta the air with another.

Doc Holliday I ain’t.

Is the MAV designed for that shit?

Like everything else up here, fuck no!

I’m gonna be gettin’ my mechanical engineering rocks off modifyin’ the thing.

But I ain’t so stupid that I’m doing that by myself. NASA can figure out how to get an ascent-vehicle out of orbit – half ‘cos I don’t think I can and half ‘cos if I think about it too much I’m gonna shit my pants and I only got so many pairs - and I’ll just carry out their orders and look pretty. Told you I can follow orders when I need to.

I do however gotta get off my ass and modify the rovers.

Yeah, both.

It was fucking cramped on my road trip to Pathfinder, and I gotta take a tonne more shit to get as far as Schiaparelli, like half the tech in New Brooklyn – Oxygenator, Water Reclaimer, Atmospheric Generator (a.k.a the Life Support Triad), more food, more of the solar panel cells – as many as I can carry – my tools, spare parts, Pathfinder, Hab batteries, and that ain’t all fitting in one rover.

Not if I actually wanna get in it too.

It’s Mars, Beverly Hillbillies style. It’s all comin’ with and I gotta find a way to do it.

Luckily, like the good lil’ doggies they are, my rovers like to travel in packs.

They’re designed to link together – if a rover kicks it out there but keeps pressure, other crew members can go out, link up to the dead rover and tow it home without having to all doggy pile into one rover. NASA doesn’t like more than 3 people per rover so if atmosphere can be maintained in the rover that can’t move, they’d rather us travel in convoy. Air can be shared between the two rovers via air hoses and that cool feature will allow me to store the Life Support Triad in The
Funvee, while pumping the air and atmosphere into R2D2 to keep me alive.

That it can be towed really helps me – it means I don’t gotta share my toys. The Funvee ain’t gonna need its battery, or heater, or well half the shit I’ve ripped outta it, just in order to get dragged along like a really expensive Airstream.

Think the look’ll catch on?

It took me 18 days to retrieve *Pathfinder*, and that was a cake walk compared to what I’m gonna have to do to schlep to Schiaparelli. It was over easy terrain, without a trailer following along, without the worry that if I don’t get there in time, I’m gonna miss my bus.

And I’m *real* fucking worried about that.

I averaged 80km per Sol on that *Pluto* mission. I’m not gonna get anywhere near that this time. The terrain is gonna be worse and I’m gonna need power to use the Water Reclaimer, Atmospheric Generator and the Oxygenator – which of course all need to be in a pressurised area.

I have concerns about powering the Triad all Sol long *and* having power to drive.

Less power to the rover means less driving time.

Less driving time is less distance.

Means more time to get there.

Let’s call it fifty days to be sure.

Assuming I get there, I get to trick out the MAV, and NASA thinks that’s gonna take another 45 sols.

Let’s say from leaving New Brooklyn to getting the mods done it’s gonna be 100 sols.

I need to survive away without the Hab for 100 sols because there’s gonna be nothing at Ares 4. Sure, I’ll have a veritable Radio Shack worth of communication options in the MAV, but fuck all else. The air tanks it has are gonna be empty. It has no use of any until the astronauts arrive, and they ain’t coming for another four years. When they *do* arrive, they’d do just what Wilson did when we got here on Sol 1 – he topped the empty MAV tanks up from the Hab.

There ain’t a Hab waiting at Schiaparelli. Anything I need to stay alive, I gotta find a way to take with me.

This is gonna make my sister’s packing look *light*.

It’s Sol 192 now. I need to have the MAV ready by sol 549. If it’s gonna take 100 sols to do what I need to once I leave Acidalia Planitia, I gotta leave by 449.

So I have 257 sols to figure out how to modify my rovers, figure out how many solar cells I’m gonna need to take, how to run the Oxygenator, Atmospheric Regulator, and Water Reclaimer off them while not draining the rover’s battery, go fetch the RTG again – yeah that’s the easiest thing but it can wait till last but I want something I can point to on my list ‘o doom and say ‘hey, I can do zat’.

I say *I*, but there’s whole conference rooms full of people that are figuring out what the fuck I gotta do, the best route – I don’t exactly got maps for this ‘cause Ares 3 mission parameters were 10km, what’d we need maps to Schiaparelli for? And like I bitched, Mars has wicked poor signage – and
just how to make structural changes to the rovers, and not die.

To fit the Life Support Triad into the trailer, I’ve got to cut a big-ass hole into the hull, and then cover it with Hab canvas which’ll balloon up and provide extra head room. Then when the time is right, I gotta move ‘em all into their new home.

You shoulda seen my face when Rhodey told me I was taking a chunk outta my spare rover.

It’s not like the pressurised compartment keeps me alive or anything.

[14:01]JPL: Guess you wanna know about the modifications to Rover 2.
[14:26]JPL: Not a lot of your tools are gonna be up to the job. The rock sample drill is the only thing so far that we’ve tested that can do it.
[14:40]BARNES: Damn that carbon composite for being so good at its job. So? Help me, Rhodey-Wan Kenobi, you’re my only hope.
[14:52]JPL: You’re an ass. But you’re an ass that’s going to be drilling for a long time
[15:05]BARNES: Ooh, JPL, speak porn-y to me. I can’t swear but you can send me erotica? In that case, I didn’t wanna brag about my staying power, but now you've brought it up, I am the Duracell bunny in human form
[15:32]BARNES: So, uh, about the mods?
[15:45]JPL: You’re gonna be drilling holes in a line, then chiselling the pieces between out.
[15:56]BARNES: Why am I not convinced by your carefree tone?
[16:34]JPL: The drill bit is 1cm wide. The holes need to be 0.5cm apart. You need to cut 11.4m in total. 760 holes that’ll take 160 seconds per hole to drill.
[16:47]BARNES: Y’all know I’ve only got a couple hundred sols to do this right?
[17:24]JPL: the drill isn’t designed for this. The battery won’t last long enough to make two holes before recharge – only 240 seconds. Recharge takes 41 minutes.
[17:37]BARNES: Seriously?!
[17:49]JPL: It’s gonna take 174 hours. 8 hours of EVA per day.
[18:03]BARNES: 21 days? Fuck that. Can I hook the drill into the cell array?
[18:15]JPL: Just what we want you to do. But only modify one drill. Don’t want you blowing up both.
[18:27]BARNES: It’s like I’m getting a reputation.

I get to play with high voltage tomorrow! Taking bets now on accidentally defibrillating myself, now! Twenty dollar stake, I’ll collect upon my return.

“Can we even do that?” Pepper asked.

“Don’t see why not. It’s just the opposite of what Wilson did to land the damn thing.”
“Yeah, but it’s designed to be remote-controlled in landing. This would be remote-controlled lift-off. With a non-pilot in the pilot’s seat. I’m no engineer or pilot, but even I know those are different.”

Fury strode to the door and yanked it open, peering down the corridor one way and then the other, one hand letting go of the door-jamb to point at what was likely an unlucky intern who was about to question his or her dedication to the Agency.

And their bladder control.


“Sir?”

Tony’s smirk was almost as audible as Fury’s sigh. “Colonel Danvers. Find her. Tell her she’s needed in the Sim. Yesterday.”

“Or I could just call her,” Rhodey offered, raising his phone, Carol’s number already punched in. “Rather than scare an intern to death. Unless you just wanted a moment to be dramatic. In which case, by all means be-”

“Hello?”

As Rhodey lifted the phone to his ear and explained the situation to Carol, Tony leaned closer to his partner. “Why does Rhodey have Danvers’ cell number on speed dial?”

“Leave it alone, Tony,” Pepper answered as Tony’s best friend flipped him off with a cheery smile.

“But he’s keeping things from me!” Tony hissed, eyes narrowed at his friend who smiled more widely in response. This time it was Fury that flipped them both off.

Steve found his eyes drifting off his work and towards the tablet he’d balanced on the end of his work-space. It took every ounce of discipline he could muster not to reach out for it.

He must have read the email Bucky had sent him fifty times that morning already, practically had the whole thing memorized and if he tried hard enough, he could just about hear it in the other man’s voice.

He should have resisted the urge to put it on the tablet, really he should. It was unprofessional. It was childish. And yet somehow, having it on the damn thing, being able to carry it with him throughout the ship tucked into the pocket of his suit, it made him feel Bucky was somehow closer to him. Somehow a little less distant.

Made the words enclosed a little more real.

It’d taken a decent amount of time, and no small amount of words that most of Flight would be surprised to hear he knew, to figure out how to get the email onto his device without turning to Natasha for help, but he’d managed and now wherever he went it did too.

He knew his friend wouldn’t have teased him about it, or even mentioned it again, but his face felt
hot just at the thought of asking for her help, or her knowing he was carrying around Bucky’s letter like a woman left behind when her sweetheart went to war.

He already had half of the crew shooting him pitying looks most of the time, he didn’t need to give any of them actual ammunition.

He managed to go an entire hour before he found his hand creeping back towards the tablet and this time he just let it. He’d not get anywhere if he was so distracted. And the test he was running wouldn’t need any intervention from him for another ten minutes anyway.

He felt the tension slide from his shoulders as the tablet booted up and his eyes fell on the familiar words.

It was gratifying to know that Bucky remembered their first meeting as vividly as he did.

*He had been running late. The meeting he’d been called into had run long, and now instead of waiting outside the conference hall for James Barnes, he’d been reduced to asking around at the hotel where most of conference speakers were being put up, having to convince more than a few people that he wasn’t a creepy stalker.*

*He was pretty sure that the uniform was what clinched it. That and he might have lied ever so slightly to the lady at the front desk that he was home from his TOD and wanted to surprise his boyfriend.*

*It was only a tiny lie. He was back from his tour and he was surprising Barnes. He just wasn’t his boyfriend.*

*Either way, it got what he needed. Some directions hastily scribbled on the back of a room service menu had him walking the back streets of the West End, stumbling onto the Captain’s Cabin more by luck than design.*

*It’d been mostly dead, which Steve found himself immensely grateful for – he’d drawn more than his fair share of attention in his uniform as it was. The deep red of the walls and the low lighting gave the pub a secret and hidden air and, unlike the other establishments he’d passed to reach it, it wasn’t pumping out shitty music at a volume that’d put most clubs to shame.*

*That was another point in its favour.*

*The door hinge squealed when he pushed it open and the few patrons on the ground floor turned towards the sound.*

*Including James Barnes.*

*He’d been attractive in pictures, but here, in the dim light near the bar, a button-down shirt open part way down his chest, and pink lips slick with the remains of his drink…*  

*Steve was in trouble.*

*Fuck, was he ever in trouble.*

*He was smiling before he could help himself, and he’d swear to the day he died, Barnes’ lips twitched.*
He’d also swear that Barnes almost went to look behind himself, as though he were half sure Steve had to be smiling at some mythical person behind him.

Steve made his way to the bar, more than aware of how Barnes was still watching him.

“Can I?” He asked gesturing to the empty stool on Barnes’ left.

“Sure, pal, have at.”

“Steve Rogers,” he held out his hand.

“Bucky Barnes.”

“Bucky? Your file says James.”

Barnes’ eyebrows skyrocketed.

“You work for NASA.” Barnes hadn’t tried to temper the disbelief in his voice, nor the scepticism in his eyes as his gaze had roved over the medals on Steve’s chest and the epaulettes on his shoulders. Steve had grinned when Barnes had frowned when he’d come to the collar insignia, the ‘SSR’ not a well known unit outside certain circles.

“At the moment.”

“And they have a file on me? Why?”

“Because you’re the best at what you do. It’s why I’m here. Didn’t someone call you about this?”

“Oh, right, ‘cos Uncle Sam wants me on the International Space Station.”

“Mars, actually.”

“Is there some sorta facility I need to take you back to? Medication that you should be taking?”

Barnes pushed his empty glass away, as though concerned Steve was going to use it as a weapon.

“I’m serious. You’re on the long list of payload specialists for Ares 3.”

Barnes just stared at him in silence, bottom lip between his teeth, eyes narrow.

“You actually are fuckin’ serious, aren’t you?”

Steve reached into his jacket, not missing how Barnes’ eyes followed the movement, his tongue slicking out over his lips. It took him a moment to remember to close his fingers around the letter he’d received from Fury.

“Here, read this.”

With Barnes attention on Fury’s letter, with the bold and bright official NASA letterhead and seal, Steve felt safe to get lost in studying the other man’s face, the jut of his jaw, the stubble that he knew’d buzz against his lips if he smudged a kiss across it, the too pink lips, the faint hint of the roundness of youth that Barnes’ hadn’t lost even in his late-twenties.
Why did he have to be gorgeous and brilliant?

The rustle of the letter being folded up again dragged him from his reverie.

“So. Not insane.”

They’d spent hours talking, about the Ares missions, about the selection process, about Steve’s own speciality, only stopping when the bartender called last orders and rang an immense bell that hung inches from Steve’s ear, Barnes laughing his ass off at how Steve almost fell off his stool in shock.

They’d finished their drinks and bemoaned the drizzle that’d started while they’d been in the pub. Once on the street, things turned awkward, neither man ready to say goodbye, neither knowing what else to do.

“Hey gonna go dancin’? You’d have your pick of the dames in that get up.”

“And if I didn’t want them?”

The light that flared in Barnes’ eyes told him everything Steve needed to know.

If he wanted, and fuck did he ever want, he could ask Bucky back to his hotel room.

And he’d say yes.

It’d be good. So good. Best ever.

Fuck, Steve wanted it. Wanted him.

Couldn’t have him.

If he got his way, if Barnes was approved, they’d be spending most of the next two and half years in close confines. He couldn’t jeopardise that. Not for a night.

No matter how good.

As his fingers traced the words he’d so longed to hear, Steve wondered how Bucky would have tasted that night, how the peat of the scotch would burst across his tongue if he’d been brave enough to lean forward and suck that plump lower lip between his own. What it would have been like to push him back against the wall, hidden by time and shadow until he was sure the flush on Bucky’s cheeks was entirely due to the grind of their hips and the rasp of their breath and not the alcohol or the promise of adventure.

He’d know now had he been brave then.

---

**Log Entry: Sol 193**

Guess who’s alive?

I know, I know, nobody is more shocked than this fella.

Woo! Who knew I could fuck around with shit and not kill myself?
Oh right, it’s my job.

But you’re forgiven for thinkin’ I didn’t actually know how to do shit without almost dying. I kinda have a history by now.

I spent some of the morning modifying a rover charger cable to become a power source for the drill right off the Hab. Like so few things up here, I actually had the parts I needed in my kit – no hatchet job on it! Which is probably why I’m still alive.

I’m saving all my MacGyvering for the rovers.

Rewiring the drill was easy as when I re-wired Pathfinder to run off the Hab instead of the dead battery and this time I could do it in the comfort of New Brooklyn. Pathfinder couldn’t fit in the airlock, but the drill, despite its bulk – it’s a metre high and kinda shaped like a jackhammer – was no problem.

Lemme tell ya, rewiring shit without having to wear a suit it so much faster. And more comfortable. I could even use a table instead of my makeshift work bench made out of an MAV strut.

It was really a simple fix, especially with the schematics that NASA sent me; battery out, attach power line, take drill and new power cord outside, connect to rover charger and ta-da.

God I’m efficient.

I gave it a shot and ran it continuously for 280 seconds and it whirred along until I shut it off.

Time to drill!

That’s what she said.

[10:07]BARNES: Drill mods complete. I’ve got plenty of EVA time and daylight. Ready to modify Rover 1 to become the trailer.
[10:27]JPL: The mods will be to remove a portion of the roof, in front of the airlock at the rear of the rover. It needs to be at least 2.5m long and the full 2m of pressure vessel. Before you cut, mark out the shape on the roof of the Rover 1. Position Pathfinder to capture image of marked area.

Both rovers have tow hitches so it didn’t take all that long to hitch R2D2 up to the Funvee and drag it into a position where Pathfinder’s camera would pick up the marks for the modifications.

But that’s when things got more complicated.

Of fuckin’ course.

Like I’ve whined countless times, I can’t use pens out here. What the fuck could I mark out the required cuts with?

I spent a little while collecting a pile of pebbles, thinking I could run them along the roof of the rover along where I’d make the cut and NASA could check it.
But from a distance, you can’t tell the colour of the pebbles from the rover, they just don’t stand out enough.

I needed something completely different to the colour of the rover.

Before you ask, my beloved duct tape is exactly the same colour as the rover. Also, it’s too precious for me to be playing Da Vinci with. I ain’t spending another four years up here, but it’s still gotta last me, and fuck knows what bullshit Rhodey and his crew is gonna have me pulling at Schiaparelli. I need every damn centimetre of what I got. 

That’s what she said.

So I did what any good friend would do having been told your friend had taken over your bunk; I vandalized Barton’s bunk right back.

Essentially our bunks are like hammocks composed of lightweight, strong fibers strung together. With the sheers from my kit, I sliced into it and unraveled the bright white string that’d stand out on the rover, grabbed a few slivers of my trusty duct tape and voila, Mars version of tailors chalk.

Clambering up onto my makeshift workbench, I taped the string down along the projected area to be removed, just in front of the rear airlock that we don’t wanna fuck with.

Gee, wonder why?

11:49] JPL: What we can see of your placement looks good. We’re assuming the side we can’t see is mirror image. You can start drilling.

[12:00] BARNES: I’m growin’ as a person. Not making a ‘drilling’ joke.

[12:14] JPL: Teach Stark how to hold it in, will ya?

Having learned how best to avoid explosions, I depressurize the trailer first.

I might still fuck this up, but it ain’t gonna be because I blew shit up.

I should have started on the roof.

So of course I started on the side.

Which was frickin’ stupid.

Like I said, the drill is 1 metre long. Starting on the side meant having to hold this jackhammer shaped, 3 foot high drill parallel to the ground.

While it vibrated like nuts.

Not gonna make a joke about it. Not gonna make a joke about it.

Trying to make it bite was as much a pain in my ass as holding it up was. I needed to put pressure on it to bite into the composite, but pressure made it wander around the side.

Not what I wanted but you try to handle something that’s three feet long and vibrating.

Not gonna make a joke about it.

So I got a little more basic. Have hammer and chisel, will travel.
I chipped out a tiny little divot into the composite, giving the drill bit somewhere to sit and that seemed to work. Couple minutes later I had the first hole.

Just seven hundred and fifty-fucking-nine to go.

Because the drill wasn’t designed to run continuously – geology nerds got no stamina (fuck I hope that ain’t true) – it overheated after the third hole was complete, a little light on the handle flashing for a few seconds before staying solidly on.

Mars, like most of space, is really cold and while it doesn’t conduct heat quickly, it was pretty efficient at cooling the drill down again. To aid in that, I removed the plastic cowling around the power cord, exposing more of the metal to the atmosphere, cooling it faster.

The sun starting setting at 17:00 and I’d made pretty good progress – a whole 75 holes. Which sounded real impressive and like a real solid achievement until I remembered I had another 685 to go.

I need to prepare for what I’m gonna do when I move on from drilling the holes on the side, and devise a way to get up onto the roof – I can’t use the workbench because *Pathfinder* is on it. But that bench is made of one of the MAV struts and there are three others I could press into service. Fuck, I’ll drag one of the workbenches out if I gotta.

Whatever it takes to not have to build a ramp outta rocks or some bullshit.

Between the Hab trapeze, digging dozens of fucking tonnes of earth, and the Airlock Zorbing, my back is never going to be the same and I don’t think I can face the idea of building a fucking *ramp*.

Before heading in, I dragged another strut over towards the rover. Tomorrow during one of the cooling downtimes, I can experiment with how best to access the roof. Misspent youth don’t fail me now!

But today, in celebration of drilling like a champion, I’m having a whole meal – I either get saved on Sol 549 or I don’t, which means I have 35 days worth of extra food. Continuing to harshly ration isn’t gonna make do anything but make me suffer longer so I can have a whole meal sometimes - and investigating some of the wildlife documentaries on Wilson’s drive.

I miss animals.

I miss Earth.

But now I got a real shot of gettin’ back there.

Even if it does involve spending all day drilling.

Can you get RSI from this?

He’d stood up to an abusive father, he’d run away from numerous foster homes, he’d tried to talk down an unstable patient with a scalpel, but Clint Barton was pretty sure that standing at Natasha’s door was the most terrifying thing he’d ever done.

But the greater the risk, the greater the reward, or whatever the fuck it was that people said about
doing scary shit. Besides, if Barnes could survive alone in face of ridiculous odds, Clint could wear his heart on his sleeve.

Just a little.

He knocked. Once, sharp and quick, like if he did it fast she’d not notice.

But of course she did.

“Come in Clint.”

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**Log Entry: Sol 194**

Now I’ve got the knack and the whole thing down, I’m averaging about three and a half minutes per hole.

Now is not the time for a really bad gang-bang joke.

Alright, it *is*, but I’m a classy dude, and these logs are *definitely* getting found whether I live or die, so I gotta be good.

How did I get this knack?

Eight motherfucking hours of dull, occasionally painful, physical labour of nothin’ but me, a rover, a drill and fourteen of my closest satellite friends relaying all my progress to NASA.

NASA who began to get antsy about reminding me that 8 hours was all they wanted me doing. Back *pre-Pathfinder* I’d have worked from morning to dark, ten hours easy, but they get all pissy-pants again, and it’s not like I can take a drill to the rover *without* them seeing, what with their web of interplanetary paparazzi hanging around up in orbit.

Although, *maybe*, they had something of a point. The drill ain’t light, even with Mars’ gravity, and holding the fucker horizontally is a strain on my shoulders. I ain’t even gonna get into what the vibrations are doing to my arms.

It ain’t no massage, lemme tell you that.

So maybe, possibly, NASA’s got a point on the whole 9-5 thing.

Just don’t tell I said that, ‘cos I’ll deny it until the day I die.

On the other hand, all that pain and suffering today was pretty worth it - I’m now a quarter of the way through the drilling process.

But I wouldn’t be me if I didn’t have something to bitch about. You’d think I’d be happy about it.

And I was.

Until I remembered the drilling is only half of it. After I finish 760 of the suckers, I have to chisel out the 759 bits of plastic that sit *between* the holes.

If I could play music or even have TV noise as something in the background, it’d be something, but
it’s just me, ruining the silence of space with a drill.

I’m a shower singer. Strictly a shower cubicle warbler, but it was make my own music, or listen to nothing but nggnrrrgngnrngrrrrr for eight hours.

Lemme tell ya, when you’re backing track is geological drill, you sound pretty fuckin’ good!

Of course then the drill overheats and you’re left with your own voice.

Still, it entertained me for a while.

Started with all the theme songs I could think of.

Then I tried to sing songs about drilling, but it descended into sex songs.

Because there’s a dearth of songs about jackhammers that aren’t a euphemism for somethin’ else.

Around hour seven I hit on a great idea.

Theme song for the mission.

Started off humming some of Pink Floyd's Interstellar Overdrive - gotta go full throttle on that intro - before kicking back with some of Queen's 'Flash Gordon' - complete with high pitched 'Flash I love you but we only have fourteen hours to save the Earth' - and the decidedly fitting 'Space Truckin' by Deep Purple.

Then I cracked it.

Good ole David Bowie.

'Space Oddity'.

What can I say, Barton’s got some eclectic shit on his drive.

It had taken him time, time to try and parse everything that he felt into words, but finally Steve sat himself at his console and began to type.

Dear Bucky,

I... Yes. Yes to everything. I remember the pub, the smell of your leather jacket and the scotch, and your cologne. I remember the way you smiled at me when I walked in. The way you looked at me when we walked out.

It was you.

It was all you.

Because I wanted the night to never end.

I blushed because of you.

I was hard because of you.

Because I wanted to go home with you.
Always you.

I love you.

I’m not going back to Earth without my best guy. We’re coming for you. I’m telling you in person.

Stay alive.

Wait for us.

Wait for me.

We’re coming.

Log Entry: Sol 195

I am a genius.

I know, I know, I’m a modest fucker, but really. A genius.

Why?

Because last night I figured out a way to listen to music out on the surface. It’s a little low-tech and tinny as fuck but it works. And it’s super fucking simple and I didn’t even nearly kill myself in the process.

Look at me growing as a person.

How’d I do it?

There shouldn’t be a way to lock open communication between the Hab and anyone on the surface. Unless in extreme conditions – hmmm, like us all evacuating – one person was meant to be in the Hab at all times. It meant that there was always someone to radio NASA or hop in the second rover and come get whomever fucked up out on the surface. As a result, there was always meant to be someone to access and control the comms between the Hab and suits. So it was never always open from Hab to suits. Nat, because it was normally her, would open comms between Hab and suits with a button, much like how those of us out on the surface radioed each other and home base.

With judicious use of a weight and some duct tape I kept the button depressed and with one of the laptops right next to the microphone blaring out a playlist I’d compiled from Nat’s and Sam’s drives, I was gloriously entertained out on the surface.

Alright, I endured the least offensive of Nat’s disco interspersed with the freaking birdsong on Sam’s drive, but it was better than nothing. And hey, Nat’s obnoxious music actually made me drill faster, so silver freaking lining to that shit.

The birdsong made me nostalgic as fuck, but it was motivating, can’t deny that.

I needed it too, because another day, another eight hours of mindless drilling.
On the plus side, I am at least half way through!

Not that NASA is pleased. Rhodey I like, I know him. But the faceless guys and dolls locked away in room casting aspersions as to my work ethic and ability when they’ve never been in an EVA suit, never held a geological drill and never stood on Mars with either of those things, are pissing me off. Especially as I was the one that wanted to work more hours.

Assholes.

When I messaged back the number of holes I’d completed so far – a stunnin’ 357 – the response was a little – a lot - insulting.

They think I’m behind.

There is however one great thing to be said for my construction worker impersonations – they do not get paid enough, lemme tell ya that – that I hadn’t anticipated.

I don’t have to do six people’s worth of work anymore! No more flipping through Thor’s notes and trying to find at least three words that I understand. No more despairing of Barton’s note taking – he uses a shorthand that I doubt even makes sense to himself – and I get to play with Steve’s drill.

Livin’ the dream.

Come on! I ain’t made a single drilling joke for days. I resisted so many, I had to get at least one out!

Know what else I got a lot of today?

Navel gazing.

During the day once I got the drill in the little divot, I don’t really have to think all that much on my task and I’m getting’ too fucking introspective. Saddest part is, I ain’t even talking about myself that I’m thinking about. Most of the time I ain’t even thinking about my rescue, neither.

I miss my potatoes.

I really, really miss ‘em. I miss watching something grow. I miss having some form of proof of life up here, that something other than me was alive up here.

Now it’s gone.

The dirt is still all over the Hab – and after the Airlock Express I do mean everywhere – ‘cos there ain’t a point in wasting time and energy dragging it out again and I don’t know if I’d even recognise the place without it.

Having run outta shitty TV on Barton’s drive – I’m as horrified at my achievement as you, but now I can tease him with telling him spoilers of his show – I got so bored, I actually ran tests on my dead soil.

I dunno why.

Guess what?

Life is one tenacious fucker.

Some of the bacteria survived. There’s a whole new little population squirming around in the dirt. It was exposed to sub-arctic temperature for days, and experienced near-vacuum for equally long and
yet little pockets of bacteria survived. My best guess is pockets of ice surrounded small colonies of bacteria and that preserved a small pocket of pressure until I re-inflated the Hab. Once the temperature and oxygen percentage went up, along with the atmosphere regulating, as New Brooklyn returned to normal function, the ice melted and the bacteria spread.

It survived.

If they can do it, I can do it.

I, uh, also got a message from Steve in the last data dump before Earth went dark. I ain’t telling you what it says but I haven’t stopped smiling in two hours, so make a’ that what you will.

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**Log Entry: Sol 196**

**Video Log**

I haven’t had to start a log like this in a while. I can’t believe I’m going to have to now.

I fucked up.

I really fuckin’ fucked up.

This time it might kill me.

Really, *really* kill me.

Today started like most days have recently – rising, shining, and making like a sculptor. It’s annoying to chip a divot and drill, chip a divot and drill so I now start my day chipping as many divots as I think I’m going to be drilling – I’m a fuckin’ nerd ‘cos I try to do better every day – and then I drill.

Relocate drill bit.

Relocate drill bit.

Rest drill until it cools.

Break for lunch.

Relocate drill bit.

You see where this is goin’ dontcha? Of course y’all do, you’re smart.

Smarter than me.

Sucha fuckin’ stupid mistake.

Don’t worry, ain’t nothin’ wrong with the rover.

The rover is just fine.

I didn’t notice my mistake for a while, but turns out it happened shortly after lunch.
Right when the drill stopped working.

It was fine. It’d been working just fine for about 4 hours by about that point. It’d been cooling for three minutes, the overheat light was off and everything should have been fine when I lifted back into my grip.

Except the overheat light wasn’t the only one out.

The power light was out too.

I tried to start it, just in case it was a short in the bulb.

I wasn’t worried, I had two drills after all and figured it was just a problem with the power cable given the Hab still had power so it wasn’t a systemic failure.

I checked out the breakers I’d put in and found the issue. All three had tripped. For some reason the drill had pulled too much amperage and the breakers had done exactly as they were meant to – tripped and protected the drill.

I reset the breakers, tried and again, and I was back in business.

I didn’t think about it again until quitting time, when it was only a passing thought ‘cos I was pissed I only managed 131 holes because I’d had to waste so much time with the drill.

Downing tools, I trudged to the Funvee and reported my progress.

[17:08]BARNES: Only 131 holes to make 488 total. I know it’s not enough but had issue with drill. Suspect intermittent short, taking drill inside to inspect.

Given the positions of our respective planets, it takes 18 minutes to get messages to each other, and NASA’s a pretty good significant other – responds real quick to messages. Guess nobody is going to sleep down there.

I lounged out in the rover waiting for a reply and wished I’d remembered to load some of the books up onto the rover computer so I had something to pass the time while waiting for NASA to acknowledge my day’s progress.

Which they didn’t do.

[17:38]BARNES: Have received no reply to message sent thirty minutes ago. Please acknowledge receipt.

You know that feeling you get when it’s like your blood has turned to ice in your veins and you can feel it spreading through very individual vein down your arms and legs and your stomach drops to your knees?

No?

Bully for you kid.

It’s what happened to me when another thirty minutes went by without NASA responding.

NASA is big on contact.

Really big on contact.
They like to ride me that I ain’t going fast enough – like they gotta remind me I’m on a freakin’ deadline.

Back when the eggheads hacked the rover, one of the first things they sent me was a document with step by step instructions for troubleshooting.

[18:10]BARNES: system_command: STATUS
[18:10]SYSTEM: Last message sent 00h31m ago. Last message received 26hr17m ago. Last ping reply from probe received 04h24m ago. WARNING: 52 unanswered pings.

You know what all that means?

Lemme boil it down for ya.

Pathfinder wasn’t talking to the rover anymore. Hadn’t been talking to the rover in 4 hours and 24 minutes.

Right around the time I picked up the drill to find it wasn’t working anymore.

I tried real hard to not panic.

I really did.

Even tried some breathing exercises that Wilson had insisted we all learn.

Lemme tell ya, they did not work.

I turned back to the cheat-sheet. There’s a whole step by step sequence for what to do if we lost communication –

1. Confirm Pathfinder receiving power.
2. Reboot rover
3. Reboot Pathfinder
4. Install rover comm software into Rover 1 and try communicating from there
5. If both Rover 1 and 2 fail to communicate, issue likely Carry out full diagnostic on Pathfinder.
6. Use Morse code to communicate via satellite. NASA might be able to remote update Pathfinder to fix issue.

I reached step one. My first check of Pathfinder’s connections revealed that the negative lead was no longer attached.

Finally, something that was an easy fix! All I needed was my electronics kit, and I hauled ass into the Hab to fetch it and set about reattaching the lead.

Which was of course when I noticed why it wasn’t attached.

The insulation had melted.

You know when that generally happens?

A short.

More current than the wire could handle.
But it wasn’t as I’d expect – there was no blacking of the wire or singing, and the positive lead insulation was fine.

Which was when it hit me.

I’m not on Earth.

I’m on Mars.

Mars’ atmosphere isn’t the same.

You know why wires singe or burn when they short back on Earth?

Oxygen in the air.

There ain’t any here.

With the positive lead being unaffected, the power had to have come from somewhere else.

And it happened when the drill’s breakers tripped.

Fuck me sideways.

Fuck me hard.

I did this to myself.

In so many ways.

So here’s the thing…the thing is…what I’m trying to say here is…I fucked up.

Show of hands, who is surprised?

Really? Not all of you?

More fool you.

I was this close. To getting off this fucking planet. This fucking close to getting my life back…and in a blink of an eye I’m dragged back down into my own personal nightmare.

This is the trajectory of my fucking life.

To ensure that Pathfinder didn’t end up building up a static charge in Martian weather – no water and near-constant sandblasting can create some serious static charge – there was a ground lead in the hull.

The hull was on Panel A,

Also attached to Panel A – and the others – had been the Mylar balloons that had inflated to protect the Lander as it impacted. I’d cut ‘em off back in Ares Vallis because they’d filled with sand and were heavy as fuck, but there were still shreds of material attached to the bottom of the panel.

Do you know what Mylar does?

It conducts electricity.

The shreds of Mylar had reached around Panel A and made contact with the hull.
I leaned the drill against the workbench that I’d placed next to *Pathfinder*, and the longer I’d been at the job, the more lax I’d gotten at where I was resting the damn thing. With the drill’s cowling removed to speed up the cooling process, it made a metal to metal connection.

Power travelled from the drill line’s positive, through the bench, through the Mylar, through the *Pathfinder’s* hull, through a buncha sensitive, delicate, irreplaceable, unfixable, electronics and out the negative lead of *Pathfinder’s* power line.

You know what *Pathfinder* operates on?

9 milliamps.

Because I wasn’t looking where I was putting the fucking drill, it got nine *thousand* milliamps poured into it which just bulldozed through the electronics.

Breakers tripped.

Too fucking late.

*Pathfinder* is dead.

I’m alone.

I might have finally done it this time.

I have to modify the rover.

I have to get to Schiaparelli.

And I have to do it alone.

Welcome to Plan:(we are all)F(ucked).

Buckle up and enjoy the ride.

Chapter End Notes

Apologies for this being late. I was in hospital a mite longer than anticipated (all is fine, it was actually really helpful) but because of the intensity of the programme, I had a flare up and the pain was too much to be getting to do fun things. But I’m back now, so hopefully back to our regularly scheduled programming...
As the sound of the ringing came through the handset, Rhodey pressed the receiver to his ear and slumped forward in his seat, elbows sliding on the paperwork that covered his desk. He was about to give up and call again in an hour, unwilling to leave a voice message about something so important, when the ringing clicked off.

“Barnes Residence.”

The speaker sounded young, exhausted and with a hint of defensive anger in her tone.

“Hello, am I speaking with Rebecca Barnes?”

“You are. And if this is another fucking journalist you can go fuck yourself with a cac.” Oh yeah, definitely Becca Barnes; Rhodey felt singed and clearly it wasn’t only Bucky that could breathe fire.

“No ma’am, I’m not a journalist. My name is James Rhodes. I’m-”

“Oh!” Becca cried, a sudden sharp exhale down the phone. “Oh fuck no! No, no, no, no. Don’t you dare. Don’t you fucking dare say it!”

Shit.

Rhodey rushed to cut her off.

“No, ma’am, no! Please listen to me; your brother is alive.”

“Fuck!” There was a creak and a thump, like Becca had collapsed into a chair or perhaps onto the stairs, then a sniffle and hitched breath. Rhodey exhaled, slowly, holding the mouthpiece away from his lips, shifting himself back in his chair to wave away the intern who poked his head around Rhodey’s office door.

"I'm sorry, I didn't-"

“I hate this.” Becca’s voice was tremulous, laced with anger as though furious she was having to fight tears she refused to shed, as though with every breath they threatened to spill, as though a fire raged in her that frightened her with its intensity.

“I hate it. I try. I try to be brave for him. Because he is. Too fucking brave – he wouldn’t have gone to another planet otherwise.” She sniffed, taking another couple shaky breaths. “And I gotta be strong for Ma. I gotta. But I hate this. Everyone staring at me, whispering about if my brother is
gonna die. Every time the phone rings, every time the doorbell goes…I think this is it, ya know? This is the call.

"This is the one where someone tells me my brother isn’t coming home. This is the time they tell me that’s it’s real. That there’s no miracle survival.” Rhody heard her try to quell a sob, a rustle down the phone-line suggesting she’d swiped at her cheeks. He knew her eyes would be stinging, her vision blurry as she stared sightless at a wall. He knew what it felt to have the crushing weight settling on his chest and thinking he’d never breathe again.

He knew because he’d lived it. He’d received the call she feared.

“I’m sorry, Miss Barnes, I didn’t mean to – I didn’t think that – I’m sorry. He made me swear that if anything happened up there, I had to talk to you, and not your mother.” He rubbed his hand over his face, resting his forehead in his palm, and closing his eyes.

“Are you okay, Miss Barnes?”

“Do you have siblings, Doctor Rhodes?” She asked, ignoring his question.

“Yeah. A sister.”

“You older?”

“Yeah.”

“Bucky’s four years older than me. I’ve never lived in a world where Bucky’s not there. In the next room, down the hall, a couple blocks over…I’m out there and I don’t know how to live on this one if he’s not here. You have to bring him home Doctor Rhodes.”

“We’re doing everything we can. We have a plan-”

“Yeah, some suit came by, talked us through it. The 'Escaping Mars For Dummies' version, anyway.”

“It’s to do with the plan that I needed to call you today. I wanted to tell you in person but the information was leaked and I didn’t ha-”

“What’s happened?”

“There was an issue with the probe your brother was using to communicate with us.”

“Was? What do you mean was?”

“There was a surge of power, and, uh, well-”

"Just say it. Can't be worse than I'm imagining."

"Pathfinder is dead."

“Bucky’s an engineer, he can fix that, he’s good at-” Becca started, with all the confidence of an adoring younger sister.

“I’m afraid he can’t,” Rhody said quietly. “He doesn’t have the right equipment, and even if he did, it’s unlikely there’d be anything he can do.”
“So you can't – he can't talk to you anymore?”

“He can leave messages in Morse code for us, but we can no longer talk to him. We won't be able to send him any new updates on how to travel to Schiaparelli.”

Becca was utterly silent.

“Miss Barnes?” Rhodey pressed the receiver so hard against his ear the hand-set creaked.

“Miss Barnes? Is someone there with you? Is there someone I can call for you?”

All that greeted him was the soft, broken sound of her weeping.
Chapter Summary

Now he's cut off from Earth again, Bucky's going to have to make his own modifications and his own way to Schiaparelli.

Log Entry: Sol 197

Audio Log

Dear Mars, fuck you very much. Please and thank you.

On my gravestone – or more likely the fucking plaque at some memorial to me 'cos I killed myself before I got home - it's going to have ‘RIP James Buchanan Barnes. Picked a bouquet of whoopsie daisies and killed himself with his own stupidity.’

I'm such a fuckin’ idiot!

Why didn’t I lean the fucking drill against the rover? Why didn’t I look where I was putting it? Why do I have to keep sabotaging myself at every single fuckin’ turn? Why didn’t I make another bench for the drill?

Why the fuck do I keep doin’ this?!

It ain’t Mars tryin’ to kill me, it’s me.

Fuck!

Log Entry: Sol 197 (2)

Audio Log

Sorry Ma.

I know, I know, tantrums get me nowhere.

It’s not like I’m totally doomed.

I got Morse code and NASA’s got their eyes on my pretty much at all times, which ain’t fuckin’ creepy at all.

NASA has already sent me some of their plans for the modifications to Rover 1 and despite my innate stupidity, I can figure out where they were going with it and I can give it my own, likely deadly, flare. Once I get to Schiaparelli the MAV has all the Comms systems a guy could want.

All I gotta do is get there.

But first I better tell Big Brother I ain’t dead.
Just a moron.

‘Pathfinder dodo’ed. Not getting it back. Plan on track. Will get to MAV.’

Didn’t that take a lot of rocks and time, but if I was panicking up here – and I was – they’re were gonna be pissing themselves down there in the hours they’ve not gotten messages to me. They probably noticed way before I did. But then I got shit to do up here, whereas they just gotta sit in shifts and watch me haul my ass around a planet like an idiot.

Wish they’d sent me all the plans for the rover alterations in one go, rather than drips and drabs. Control freaks.

Sure, I’m a mechanical engineer, and I’m real good at my job, whatever y’all might think of my abilities. But fuckin’ around with the rovers and driving 3,200km is the most dangerous thing I’m going to have tried up here – which is sayin’ something, huh? – and they can’t help.

Lemme put that in perspective for ya; straight line distance from LA to DC is 3,696km. I’m gonna be driving almost that distance without roads, with nothing but what I got with me, no roads, no maps, no breakdown assistance, no help, terrain like the Utah dessert on steroids and a planet that wants me dead.

I get lost on the way to the Ares 4 site, they can’t correct my course, I’m dead.

I fuck the rover mods, they can’t help, I’m dead.

The life support craps out, I’m dead.

Seeing a fucking theme here?

At least if I get to the MAV they can help guide me with the changes I need to make, ‘cos I’m good at my job, but modifying an ascent vessel into an escape vehicle…

Not my area o’ expertise, even if it is something guaranteed to nearly kill me and I’ve pretty much excelled at that shit since I got stuck here.

But the more I think about what the fuck I gotta do to destroy the MAV, the more likely I’m gonna shit my pants, and I got a limited supply of them y’know?

I have gone thirty fuckin’ years without skidmarks and I ain’t starting that now.

So, for today I’ve stopped my work on the Great Martian Winnebago. I need to make damn sure I know what I’m doin’ before I do it. I need the Life Support Triad and I need to fuck with the rover to make them fit.

I know what you're thinking. You're thinking, 'Bucky, my pal, you're making excellent choices.'

I am, ain't I?

You're also thinking, 'Bucky, you're talking to yourself way too much.'

Couldn't agree more.

But here's the kicker, I actually ain't got much choice. Is it really a choice when the options are 'certain death,' of staying where I am, and 'maybe death,' by carrying out mods I got no idea how I'm gonna start?
No

No, is the correct answer here.

Also, it's rude to remind me I ain't got nobody to talk to. That wound is still fresh, assholes. Your parents did an awesome job with y'all.

But I got nobody else to talk to, so even though you don’t deserve it, I’m gonna preserve my thoughts and how I’m doin’ this, so future idiots that come here don’t make the same mistakes.

Step one – fitting what I gotta get in the rovers, in there.

Step two – running what I need. This is the bigger problem. One the NASA geeks hadn’t gotten around to figuring that out. Or at least they hadn’t told me if they had: the Life Support Triad need power.

A lot of power.

They’ll have to run all sol long.

And that’s the problem. The rover batteries have 18kwh of juice. The Oxygenator all on its ownsome uses 44.1kwh.

Demanding little shit.

You know what? Kilowatt-hours per sol is a pain in my ass to say. I’m the King around here, so I’m just gonna come up with a new term…It can be anything I want. Not like it makes any difference.

Ummmm… fuck I dunno!

Uh, widow-hawks…

Thunder-hammers…

God no.

Sounds like somethin’ you’d get from some back alley porn store.

Not, ya know, that I’d know that, Ma. REDACTING DUDE DO YOUR THING.

Falcon-chirps…

I’m getting worse at this.

Hmmm, the agony of creation.

Being a king is really hard.

Fuck it, star-shields.

I’m done. Star-shields is the newest form of measurement on Mars.

With the Water Reclaimer needing 3.6ss, the greedy Oxygenator demanding 44.1 and the Air Regulator wanting 21.5, there’s gonna have to be some cutbacks because I ain’t got 69.2ss to spare.

Or, y’know, at all.
You remember those scenes from Apollo 13 with John Aaron being a steely eyed missile man working with Ken Mattingly (Gary Sinise for those of ya that don’t know your space history) to devise a start-up procedure that’d allow ‘em to get back home safe on the limited battery power?

Wish those guys were with me now.

The easiest thing to deal with is the Water Reclaimer. Which is a bitch ‘cos it’s gonna save me the least amount of star-shields but fuck it.

I got 620L of water since Airlock 1’s hissy fit. I need 3L a day. That’s over 200 days. Once I leave New Brooklyn, I’m only gonna need enough for a hundred days. I don’t need the Water Reclaimer. I can just dump my waste out on the planet.

Ya hear that Mars? Fuck you! I’m gonna leave my piss and shit out on your surface and there’s fuck all ya can do about it!

Take that.

How’d ya like me now?

It’s certainly gonna make living in the rover that much nicer without that lingering odour of urine.

So, 3.6 star-shields saved.

And the Life Support Triad has been downgraded to the Life Support Duo.

Small step for Barnes, one tiny hop towards Schiaparelli.

[08:41]VALKYRIE: Confirm Barnes alive. Is plan a go?
[08:45]CAPCOM: You got some real trust issues, Rogers.
[08:50]VALKYRIE: We can discuss it at length when we get back, Director Fury. Confirm Barnes status.
[08:54]CAPCOM: Barnes leaving messages via Morse code. Plan is a go. Intercept at Schiaparelli. We’re going to talk about it now.

“Damn. You gotta get a leash for your boy. He cannot be left on his own,” Sam muttered as he ran through yet another diagnostic, craning over Steve’s shoulder to read the screen when he heard his Commander swear.

“And maybe baby-proof your house,” Natasha chimed in. “God knows what trouble he’s going to get up to back on Earth. Maybe you should put him in one of those hamster balls for his own protection.”

“You’re both terrible people. You know that, right?”

[08:57]CAPCOM: I suppose you have some sort of explanation, Commander.
[09:01]VALKYRIE: You gave me this mission, Sir, this is how it ends. The six of us set out together and the six of us are coming back. Together. We took a vote, because that’s how this
should fucking work. We should get a say in what happens to us. To Barnes. Nobody here is here against their will. This is our choice. Made freely, without fear. If I see a situation pointed south, I can’t ignore it. Sometimes I wish I could.

[09:05] CAPCOM: No you don’t.
[09:08] VALKYRIE: No. I don’t.
[09:10] CAPCOM: You understand what’ll happen when you get back?”
[09:13] VALKYRIE: You’ll want to have me court martialed. Sam too. But you won’t.
[09:16] CAPCOM: Oh?
[09:19] VALKYRIE: No, you won’t. Because when we touch down having saved Bucky, the whole world will be watching. You’d be arresting heroes.
[09:23] CAPCOM: You think what you’re doing is heroic? What’s the protocol on that? Are we meant to be tipping superheroes now? What does rescue go? Ten or fifteen percent?
[09:28] VALKYRIE: I think it’s the right thing to do. You know it. I think a situation went so fucking south there isn’t words for it, and we’re doing what we can to turn it around. The public will see it as heroic. And they’ll turn on you on a dime, if you turn on us.
[09:32] CAPCOM: That how Wilson sees it?
[09:35] VALKYRIE: He said, and I quote, ‘Don’t look at me, I do what he does. I just make it look cool.’

“What is he doing?”

“AAAIIIIEE!”

Tony darted backwards into the hallway as Kate jumped in her seat, almost head-butting him in the nose, her chair rolling sharply towards Tony’s feet, keyboard clattering to the floor.

“What the hell?” Kate span around in her chair, to come face to face with her opponent, eyes going wide when she saw who it was.

“Jumpy,” Tony drawled with a smirk. The Director’s hair was styled to artfully mussed perfection, his eyes red-rimmed as betraying his exhaustion, a feeling to which Kate could relate. Also like her, Stark’s clothes were rumpled, his rock tee faded and thin. He was dressed more like one of the myriad interns that were getting under Kate’s feet of late, not one of the highest members of the administration. Thinking back on it, Kate couldn’t remember ever seeing the man in a tie, even in the multitude of press conferences that had followed the announcement of Barnes’ survival.

That probably drove Ms Potts round the bend.

“Only when people invade my personal bubble, and this,” Kate waved her arms wildly around her head with a scowl, narrowly missing slamming her hands into the wall, “is all my personal bubble.”

“Does your personal bubble even fit in this tiny broom closet?” Tony eyed the walls with distaste as he stepped back inside.

“Can I help you with something?” Kate retrieved her keyboard and scooted herself back under her desk. She knew the office was tiny, she complained about it daily to anyone who’d listen, and more than one dog that wasn’t paying any attention, but that didn’t mean that one of the Directors who had an office so high up the air was thin could just come in and rag on it.

“I really need a sandwich but I feel asking a young woman for one would be in bad taste. As it
were.”

“You’d be right. Anything else?”

“Like fries or a coke?”

“Mr St—”

“Director. Director Stark.”

Kate bit her lip to hold in the sarcastic comment that was just milliseconds from tripping off her tongue. ‘You need this job, you need this job. You are important, they wouldn’t know Barnes was alive without you, and now you’re their sole point of contact with the Lander killing idiot, don’t go off on the Director of Ares 3, just because he’s annoying you because he’s frustrated. Don’t.’

“Director Stark, is there a reason you’re in my office at 3am? Like something you need?”

“I need a sandwich. I need to figure out a good way of telling Cap that his last email to Barnes never got delivered because Pathfinder went nighty-night. I need a day when there aren’t twenty crises to deal with, but I don’t see that coming any time soon.” Tony leaned over her shoulder again and tapped at the main screen, much to Kate’s irritation. “While I wait, what is he doing?”

“It looks like he’s continuing rover mods.”

“Like what?”

“I don’t know yet.”

“Thoughts? Theories? Wild guesses?” ‘Oh, so he’s not just frustrated, he’s bored. That’s even worse’ Kate thought.

“I do—I don’t know.” Tony’s sigh of defeat wafted over the side of Kate’s face, ruffling her hair. Her shoulders ached with how she was having to work to stop them creeping up under her ears, her neck practically itching. She hated having people she didn’t know well this close behind her where she couldn’t see them, especially in what she deemed her damn space. But just when she was about to push him away, job be damned, something he’d said registered with her.

“What did you say?!” She swivelled in the chair, not even caring that her skull cracked against his chin painfully.

“Ow! I said ow!”

“What?” She waved away his annoyance. “No, a minute ago.”

“I need a sandwich?”

“No, no, no, the other thing. The Cap thing.”

Tony grimaced and rubbed at his jaw. “Yeah. There’s no good way to tell him, is there?”

“Y’think?!” Kate was grateful it was so early and therefore a number of the offices around her’s were empty because she really didn’t need another lecture from Strange about volume control. She’d argued back that if he couldn’t stay calm through a little light yelling, he wasn’t nearly as in control of his inner self as he’d like to think.

Which had gone down as well as could be expected.
“You think I have to tell him?”

Kate stared at her boss’s boss in silence. He deflated in front of her eyes. “Yeah, that’s what Pepper said,” he grumbled, unable to meet Kate’s gaze.

“So you’re going to tell him, right?” Kate asked, clarifying that the Director actually intended to do so.

“Let’s move onto another subject.” Tony’s eyes roved the small space as though to alight upon anything that would serve a jumping off point to a less fraught conversation.

“Director Stark…”

“I’ll figure it out.” Tony waved away Kate’s protest with a frown, before his whole face lit up as his gaze landed on what was really the only thing in the room other than Kate and himself, and he jumped on the chance to move the topic on.

“Not real interactive is it? Kind of like having a goldfish.” Tony tapped the screen again and Kate had to sit on her hands to stop from slapping his away, teeth on edge at the smudges on her previously pristine monitor. She’d rather an ass-clenchingly uncomfortable conversation about emotions than someone defacing her precious monitors.

Yet again.

“You get used to it.” When Tony reached up to prod the screen again, Kate gave into the urge to stop him, fingers closing softly but firmly around his wrist and guiding his whole arm away from the temptation, feeling more like a mother chiding a child than a subordinate.

“You wanna watch him for a while?” She could really do with a bathroom break, not to mention finding her own sandwich, but with Barnes so rarely outside, and with the mods so important, particularly now they’d lost communication, she didn’t want eyes off of him for a moment.

“Nah,” Tony said dismissively, his intense interest in the screen belying his words. “I’ll wait for the movie.” He stood up, and the relief was instantaneous, Kate slouching down in her chair again.

“Don’t you have something more important to be doing?”

“I’ll have you know I was playing a very important game of chess with a man that kept saying ‘king me’ before I couldn’t take it anymore and took to wandering the halls like a Victorian damsel.”

“That’s what you get for playing with Wade. Nah, wait, it’s what you get for putting off telling Rogers about the email.”

“Touche. Anyways, I better go back to being powerful and important. You can go back to your voyeuristic tendencies and shrieking.”

“Payback’s a bitch,” she mumbled under her breath, though it held little rancour; she didn’t envy the man his task.

Log Entry: Sol 198
My arm ain’t doin’ so good after days of fuckin’ with the drill and hefting shit around – especially after the airlock zorbing – so this morning I trundled down to the medical bay to dig out the sling, give my arm a rest while I stare at computer screens.

Long story short, I knocked over a cabinet, found the sling and a box.

A box of caffeine pills.

It ain’t no coffee but damn I’m wide awake and thinking clearly.

With care, I got enough to get me to Valkyrie.

Valkyrie and her sweet, sweet espresso machine.

I’m adding it to the list a’ stuff I gotta smooch.

Valkyrie herself. Pucker up, dollface, you’re never gonna be more beautiful to me than if I get back in your airlock.

Natasha.

Thor – just because, and this was totally his wife’s idea so I gotta share the love to the Foster-Odinson clan.

Sam. With tongue, ‘cos I promised.

Barton – so he doesn’t feel left out.

My bunk.

My entertainment drive with my excellent music.

The espresso machine.

**Steve.**

Have caffeine, will travel.

Which reminds me - I had a weird dream last night in which I was painting shields on the side of the rovers for my excursion, white and blue concentric circles with a red star right in the middle. ‘Cos I’m an artist it looked fuckin’ spectacular, and I was real disappointed when I woke up that I got zero paint to use up here.

For that matter I ain’t even really got anywhere on the rovers I could paint it: R2D2 has the lederhosen and who the fuck knows what I’m gonna do to the Funvee by the time I’m done.

Here’s hoping I don’t blow the fucker up.

While I bitched through breakfast about how I didn’t even have a bumper sticker for either of my two rovers, some useful part of my brain engaged and I had a breakthrough.

I have two rovers.

One me.

This is a numbers game and I am fucking **awesome** at games.

I was shit scared all last night, because I didn’t think I had a chance to reduce the requirements of the Oxygenator and that greedy fucker uses a lot of energy, but the solid oxide electrolysis the thing uses, operates near the theoretical efficiency limit.

So, why am I all excited?
The Oxygenator isn’t designed for one guy. It’s designed for six.

Pay attention, this is important.

The Oxygenator works by heating CO2 to 900°C then passing it over a solid oxide electrolysis (SOXE) stack comprised of scandia-stabilized zirconia electrolytes with ceramic anodes and cermet cathodes on opposite sides…

Blah, blah, blah, I’ve lost you haven’t I?

Why did I sorta explain somethin’ you don’t give a shit about?

Remember the heater in the rover, and how it took up so much of the battery?

If not, pay attention; I ain’t explaining this shit for my health.

It’s the same with the Oxygenator – most of its energy sapping behaviour is ‘cos of the heater warming the CO2 to 900°C, not the electrolysis itself.

But there’s only me, not a crew of six.

I’m only creating 1/6th of the amount of CO2 that it expects so it’s only having to heat a 1/6th so it’s running way below specifications. While the computer states the Oxygenator pulls 44.1 ss, it only actually needs 7.35.

That’s my girl, showing her moxie.

It’s all down to caffeine.

Told you it helps me think.

Fun fact for you because I’m super fucking caffeinated and all victorious. The Oxygenator is the next-gen descendent of what the Ares 1 crew used, The Mars Oxygen ISRU Experiment. The MOXIE, which is much cuter, you gotta admit.

Bucky, what does ISRU stand for?

Glad you asked, my future intrepid explorer.

In-situ resource utilization, which is a real fancy way of saying ‘using natural resources to make what we need’. Back then, rather than recycle what the crew was exhaling it just pulled in ‘air’ straight from outside, so my gal is a little different to the one Ares 1 had, but if you think that stopped me from scrawling ‘MOXIE’ across the top of mine, you really don’t know me well.

I’m unstoppable now, baby!

Two of the three down.

One to go.

Atmospheric Regulator.

It’s a doozy.

Without it, the Oxygenator is useless. The Regulator samples the air and ensures it’s safe for lil’ ole me. Just the right amount of oxygen, just the right amount of CO2…it’s the Goldilocks of the Life
Support Duo.

Everything has to be just right.

Or, y’know, I die.

In order to separate and store the various gasses in the ‘atmosphere’ in the Hab, and soon R2D2 if I’, a lucky fucker, the Atmospheric Regulator uses freeze-separation. Each of the gasses has its own liquefaction point – the temperature when it goes from gas to liquid, for all the cool kids in the back on their phones. Cool a gas to minus 183 degrees°C and oxygen turns to a liquid leaving nitrogen behind. The liquid oxygen then goes into the storage tank until needed, at which point the AR can just warm up some of the liquid oxygen and voila, I keep breathing.

That’s the plan, anyway.

On Earth all that supercooling of gasses would take a lot of energy.

But I ain’t on Earth.

Don’t I fucking know it!

Remember ISRU? It’s at play here, too; rather than use energy – which we’d have to generate - the gasses are pumped outside the Hab to an external component, that’s still subject to Hab atmospheric pressure, to be compressed – allowing the gasses to condense at higher temperatures than they would normally – where Mars is anything from a balmy 0°C to -150°C.

A.K.A. fuckin’ cold.

When it is warm – for a given definition of warm – the Hab does use power to cool the gasses but why waste energy when Mars can make itself useful for once?

But that air has to be heated before being pumped back into the Hab or I’d be re-enacting Mr Popper’s Penguins.

The Atmospheric Regulator wants 21.5ss. Even if I used the space I’ve now got from not taking Pathfinder, and took all the Hab power cells, spare batteries….it ain’t enough to even power the greedy fucker for a Sol. Let alone drive anywhere.

Not gonna get to Schiaparelli that way.

Need more caffeine.

Need more thinking.

Need more staring at the Regulator to glower it into submission.

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**Log Entry: Sol 199**

Who’s your daddy?!

All hail caffeine, the wonder drug!
Although, the amount I have popped, I might have mildly poisoned myself.

Worth it, though - I figured it out.

The biggest issue with the rover is the confined space. More specifically, the CO2 toxicity that occurs when someone's breathing in a confined space. It's the car version of a paper bag. My exhalations got nowhere to go but to build up, which ain't good. Don't know 'bout you, but I'm pretty attached to this converting oxygen into carbon dioxide thing I got goin' on. It's habit, a bad one maybe on a planet with no air, but habit.

It also says everything about mankind you need to know – we're pretty damn toxic to the planet, so it figures we're toxic to ourselves. The more I breathe, the more I'm gonna get fucked by CO2. See, the biggest issue isn't trying to ensure there's enough oxygen. It's making sure there isn't too much CO2. I could have all the oxygen in the world, but if the amount of CO2 in the air is too high, I'd be fucked.

If you've got 1% CO2 in the air, you'll get drowsy. 2% you'll feel drunk. 5% you'll struggle to stay conscious.

At 8% you'll die.

So, you know, the Atmospheric Regulator is kinda important.

In the Hab, the Oxygenator is constantly pulling CO2 out of the air, compressing it and ripping it apart. It's running 24 hours a day. Because it can. Because I have a whole solar array and batteries galore.

But I don't need it to in the rover.

The Atmospheric Regulator can pull the CO2 outta the air and store in a tank, and backfill the rover with O2 from the Hab's tanks that I'm gonna rig into the rover. The 50L of liquid O2 they hold will last 85 days. Not quite enough.

That just means that I stop every few days – probably every 4th or 5th but I'll do the maths – and devote the whole day to running the Oxygenator. I can rest, relax, kick back, check my course, get bored outta my fuckin' brain – all the good stuff, while the solar cells power the Oxygenator without worryin' about draining the battery.

I stumbled for a minute over the other battery issue – heat.

The air from the Atmospheric Regulator has to be heated before it can be pumped back into the rover or I might as well be in cryofreeze. Which would put me right back where I started: wasting precious star-shields on heat.

We all know how to get around that, don't we?

Probably a good thing NASA doesn’t know about this plan.

Forget pissing their pants – they'd pass out or cry for their mommas.

Welcome back our old friend…

The RTG.

The RTG and its sweet 1400W of heat.
The Regulator uses 790W to reheat the air coming back into the Hab, so the RTG is more than able to heat the air and keep the Funvee toasty.

I also got a plan for if it gets too hot during my inevitable Schiaparelli-Pluto trials – water isn’t just great at keeping me alive. It’s is also fucking awesome with heat dissipation. One of the best out there. If I can fit it in, I’m gonna take an extra tub of water, not for me to drink but to use as a heat-sink. Each night, I seal it up, put it out on the surface, let it freeze, and then that handy block of ice goes into the Funvee. As the RPG overheats the place, seein’ as how it’s gonna produce twice as much heat as is needed, the ice will take up a lot of the excess as it melts. None of my precious electronics – or me - will then risk overheating.

Sometimes I have good ideas, try not to faint from shock.

But before I can start tests, I gotta see if it’s even fucking worth it. What does tht mean?

It means I suffered for art and science.

So shoot me, I’m a giver.

I shut the heaters in the Regulator off and began a diagnostic on its power consumption.

Fuck, it got cold. Teeth chattering, ball-clenching, goosebumps that fucking hurt, sort of cold. Nobody said sciece was easy.

But it was worth it.

So fuckin’ worth it.

Running at full spec the Regulator demands 21.5 ss.

But without it, it only needs 1ss.

Almost all of its draw of power goes back into heating the air. Humans are fuckin’ delicate creatures – we waste a lot of energy keeping shit warm.

And look what its doin’ to our planet.

That I really wanna get back to.

Like so very many of life’s problems – especially on this planet – the solution is simple.

A box of pure, radioactive plutonium.

I took the rest of the day to check my figures, but they’re good.

I can do this.

I can run the Life Support Duo and the rover.

I’m gonna get to Schiaparelli.

"Hello, and welcome to the Barnes Report here on CNN. I’m Christine Everhart, and joining me
today is our regular guest, Doctor Andrew Garner. Welcome back to the show.”

“Thank you for having me.”

“Let’s get straight to it, Doctor Garner. Over your previous appearances on the show, we’ve spoken many times on the mental and emotional strain that Barnes is likely under due to his extreme isolation. Is that something you’re better acquainted with since communication was re-established, even if for so short a time?”

“You can’t really be asking me to reveal personal information revealed to me by a patient.”

Christine cocked her head to one side.

“So he is a patient?”

“All of the AsCans and crew members are patients of mine.”

“So, we can assume he’s struggling, that’s what you’re saying.”

“I didn’t say anything like that, and you know it.”

“But you are admitting you’ve had communication with him?”

“I’m not admitting anything, Miss Everheart.” Garner stared placidly back at Christine, refusing to be baited or drawn into a subject he wasn’t going to divulge any information on. “What I’m stating is that yes, I have had communication with him, before Pathfinder was damaged, and considering his situation, Barnes is coping admirably.”

“And I can’t get you to tell us anything more than that?”

“Absolutely not.”

“Come on, Doctor Garner,” Christine leaned over and rested one surprisingly cool hand over one of Andrew’s where it rested on the desk, “we’ve always had good chats in the past, let’s not spoil it!”

Andrew removed her hand, calmly but quickly. “I’m not spoiling anything. Unlike many people,” he smiled at her, a hint of anger in the tightness of his eyes, “I respect boundaries. I have an ethical obligation to my patients that I take very seriously. Either stop this line of questioning or I walk.”

While repeat viewings online for what had become known as the ‘Stark Smackdown’ episode had been through the roof, Christine herself had been severely reprimanded by not only Senator Stern, but a number of the other board members of the network for what had been perceived as her inability to control neither her guests nor the tone of the interview itself. What had been intended as a fluff piece, a jumping off point for Stern’s bid for nomination – his publicity team having informed him it was never too early to try and tweak his image and he had a lot in need of tweaking – had turned into a shitshow that had embarrassed almost all involved.

Except Stark and NASA.

Pushing a psychiatrist to break his oath of patient confidentiality wasn’t going to win back any confidence. From her audience or her bosses.

But that didn’t mean she couldn’t pursue it the line of questioning in more vague terms.

“I apologise.”
“Thank you.”

“Earlier you mentioned that Barnes has been coping with his situation well. However, with the recent setback, perhaps that has changed. Do you think that losing communication with Earth will be one hit too many for James Barnes? He’s already suffered so many set-backs, will losing his link to humanity push him over the edge?”

“No.”

“Now who’s spoiling it, Doctor Garner?” Christine teased in an attempt to ease the tension that had developed, but Garner didn’t crack so much as a hint of the normally easy grin that had made him a firm favourite with her audience. “Would you care to elaborate?”

“The whole world has seen how determined Barnes is, how he’s recovered from every problem that life on Mars has thrown at him since we’ve been monitoring his progress. For crying out loud, the man grew plants on Mars. He made water from rocket fuel!”

Now Garner did smile, broad and genuine.

“He’s more stubborn than anyone can comprehend, and he knows now, even without being able to speak with us, that we’re watching. That we know he’s alive. That we are coming for him. He’s got a solid plan to get to the MAV in Schiaparelli, where he’ll be able to communicate again.”

Andrew turned to the camera, leaning forward as though he could get closer to the audience.

“If I were a betting man, I’d never bet against James Barnes.”

**Log Entry: Sol 200**

Not gonna lie; that was a real mind fuck seeing that 200 up there.

I’ve been up here, most of them alone, for 200 days.

More than half a year.

So to celebrate, I carried out my favourite activity.

No, not *that*.

Is it weird I don’t want sex? Or even miss sex?

I miss *missing* sex. I don’t even remember the last time I jacked off.

Sorry, Ma.

Anyway…

I hauled rocks around.

Why?

To find out how efficient my little convoy is gonna be. I know I ain’t gonna get 80km per sol like
with the *Pathfinder* Expedition, because my load is gonna be heavier, and the terrain shitty as fuck, but I gotta get a rough idea what it *will* be like in case I gotta leave sooner than I think.

Wanna know some irony?

Killing my only form of real communication with Earth, aka my best chance of getting to the Ares 4 site, might have increased my chances of not getting dead while on my Schiaparelli Safari. Without Pathfinder’s weight and bulk of her in my pickup, I can pack some other shit back there, either in pressurised tubs or au naturel. More tools, maybe more panels, just *more*.

Alanis Morissette never had that in the damn song.

My rovers are already linked up, so that saved a little time, and as the trailer is already depressurised because I’m not totally stupid – I seem to say that a lot and yet evidence seems to suggest that I *am* – it was just a matter of throwing open both airlocks and throwing rocks in to simulate the weight of the water, Life Support Duo, spares, tools, suits, food and other assorted shit I’m gonna need.

It took hours.

Some rough maths had be thinking my load is gonna be about 1200kg.

You ever fucked around hauling 1200kg of rocks around?

Even in 0.4g?

With a fucked arm?

If you think I bitched and whined and complained the whole time, you’re damn fucking right.

Give yourself a pat on the back. I’m too sore to do it for ya.

Alright, alright, I admit I cheated a *little*.

By the time she landed, my gorgeous paperweight weighed a svelte 370kg. Minus the mylar balloons and some of the other shit, she’s probably a little more like 320kg. I decided to play it safe and call it 300kg, and wrapped her back into the bondage gear, and hitched her up onto the back of the Funvee.

But I still had to find 900kg of shit and that’s not easy in an area where pretty much every fuckin’ rock has already been shoved into the damn leiderhosen. In the end, it was probably 30% rocks, 40% bits of ragged metal strut from the MAV pad, and 30% tubs full of dirt.

That’s still 900kg of hauling shit around and I’m sore and I ain’t having you lessen my accomplishments. That shit ain’t gonna fly.

Then I made like a trucker and took my new gear for a spin around the Hab until the batteries were drained.

Thrilling, lemme tell you.

Pretty impressed that even hauling all that dead weight, R2D2 still maintained its top speed of 25kph – someone give the people responsible for these babies a Nobel Prize - but the laws of physics being what they are, I was actually right for once.

Whoever designed these rovers should get a fuckin’ Nobel Prize.
The day’s research had R2D2 topping out at 57km before I had to recharge.

But that’s on level ground, which I ain’t gonna be on for most of the trip, so I’m gonna downgrade to 50km per sol because I’m an optimistic asshole. Which adds 15 days to my estimated journey time to Schiaparelli.

But wait, there’s more, because what is my shitshow of a life without more?

While tooling in circles, I took my brain for a spin too. Just like I’m gonna be slower on the terrain out there, I’m gonna be quicker on the Oxygenator. I’d hoped for needing a MOXIE day only every 4-5 days, but with some complicated and frustrating mental mathematics, I’ve figured it’s going to be more like every 2-3 days.

Which means my travel time to Schiaparelli is gonna be something like 91 Sols.

I will fuckin’ kill myself if I have to live in the convoy for 91 days. I will actually do it. That’s more than 4 times the length of time it took to get to Pathfinder and that was more than shitty enough.

But I’m exhausted from all the shit moving, and all the bitching about the shit moving so I’m gonna go lie down. I think I threw my back out lifting one of the tubs, and I definitely pissed off my arm, and no amount of T-1000 awesomeness is gonna help.

**Log Entry: Sol 201**

Upgrade that to *really* hurt my back. I can’t even feel the pain in my arm because of the pain in my back. This is so much worse than what it was like in R2D2 coming back from Ares Vallis.

God bless Vicodin.

I’m gonna take it easy today but I can’t stop entirely because I need to figure out how to get to Schiaparelli in less than 91 sols.

So I slunk into the rover and fetched the RTG, swearing at every tiny bump that I drove over that jarred my back. I am deeply in love with my former self for just leaving it next to the flag instead of re-burying it. All I had to do was hop out the rover – gently and carefully ease myself out of the airlock – pick it up off the ground – hobble over to the damn thing – and pick it up – hitch it up to a gizmo.

If I whimpered my way through every step, then that’s between me and my God.

It did give me some good practice driving my convoy. If you ain’t ever pulled a trailer or a caravan, you got no idea how different it feels, but hey, at least I don’t gotta parallel park the fucker or manoeuvre around other drivers. Do gotta figure out a way to link the cameras from the Funvee to the monitors in R2D2 so that I got a full surround view of what’s going on around me.

But that’s another day. One in which my lower spine doesn’t feel like it’s trying to burn it’s way through my skin every time I do something outrageous. Like inhale.

Instead of fucking around with the rover electronics, I fucked around with a box of radiation. Only a complete fucking moron would bring it inside the Hab, so of course I did. It’ll kill me or it won’t, just like everything else up here. If I treat it with respect, don’t break it and don’t juggle the fucking
thing, I think I’ll be okay. Besides, it and I are gonna get real intimate for three months or so out on the surface so what’s a few more days getting to know each other.

I got a plan for it, and I gotta see if it works.

It’s a nice indoor activity that involves no heavy lifting and much sitting quietly, even if I know Barton would be bitching me out for staying too still when my back hurt.

I will be good and stretch and stroll around – looking a lot like a pregnant woman I’m sure with the way I’m waddling and holding my back – between playing with the Regulator and the box of death.

Raiding the spares for the Water Reclaimer, I repurposed some of the plastic tubing – like the tubes that got gunked up with mineral deposits – I glued some tubes along the heat baffles around the RTG and used a funnel to run water through those tubes and into a sample container.

The temperature of the water after it passed through the tubes was, as expected, warmer.

The Regulator doesn’t run 24.5/7; the freeze-separation speed is driven by the temperature outside. What that means is, the returning freezing air isn’t pumped back inside at a steady rate, and the RTG isn’t a reactor, I can’t turn it up or down when necessary.

So, my plan is to heat a reservoir of water with the RTG, and then feed the frigid air, as it comes back in, through that warm water to heat it and voila, the rover remains warm.

I also had a way better idea once I figured all that out.

Time for a little rest, relaxation and spa time.

I can’t keep popping painkillers – masking the pain in my back isn’t going to make it go away and I can’t risk making it worse because I can’t feel it. I also don’t like how muzzy around the edges it makes me feel.

I ain’t gonna be the first addict on Mars.

So, what else soothes back pain? Or muscle pain in general?

How many times do I gotta say it? I’m not talking about that.

But you’re right, that would ease some of the pain.

If it weren’t for the constant near-dying I’d start to get worried about how I got zero inclination to do fuck all south of the equator. Feel like I couldn’t get it up with a fucking crane, but I do my best not to think about it.

Nah, I’m talking a non-rated R way of relieving tension.

Yeah, you know where I’m going with this.

Heh, remember how I said I’d give my left nut for a Jacuzzi? Well, if anything happens with the RTG I’m gonna be one sterile fucker, so in a way I’m gonna be giving both nuts for this.

Worth. It.

So worth it.

After my dad died, after we stopped going camping, back when all I wanted was to be alone but I
couldn’t bear to leave my girls for too long, I went down to the little storage cage in our building’s basement and I took the tarp that we used to put under our tent, the nylon rope, and the bag with my dad’s tools, and headed up onto the roof.

Takes about ten minutes to put in four grommets if you know what you’re doing. Feed the nylon rope through, string this contraption up between two satellite dishes, and you’ve got a hammock fit for a teen that wants to fight the world.

It wasn’t the most comfortable thing, but it got me out of an apartment that did nothing but remind me of my dad. Out of an apartment where all I could do was hear my ma’s heart breaking and my sister sobbing. Where the scent of my dad’s cologne still lingered in the bathroom. Where the chair he’d needed those last few months still sat in the hall.

It got me out under the sky. Under the night sky. Under the stars. Stars my dad had taught me. Stars I liked to think my dad had become. I could see Mars some of those nights, when it was clear enough, and I’d tell my dad all about how I was gonna get to the little twinkle up in the sky. How he was gonna be so proud of me.

Now, I’m gonna build a hammock, and I’m gonna stare up at pictures of Earth, and I’m gonna figure out a way home. Last time I did this, I promised my girls that I’d never be more than a couple storeys away, that I’d be back in less than a minute. Gotta keep that promise.

But this time, my hammock is coming with a little twist, and fuck it’s going to feel so good.

Sorry Natasha, but it’s for a good cause.

I cut Natasha’s hammock out of her bunk and draped some of the spare Hab canvas over the frame to make a nice little tub. With a grommet tool – I ever tell you how fuckin’ happy it makes me when I don’t gotta DIY shit up here, but actually got the right tools at the right time? – a drill, some of the quick-set cement shit we used on the weather station sensors, and a lot of swearing, I fixed the canvas to the body of the bunk and sealed it.

I got no idea what I weigh now, and I don’t wanna know, but water weighs about a kilo a litre, though a less up here.

The average bath is about 80 litres – I used to have to deal with convincing my sister to take fewer baths and more showers because our water bill was out of control, so I know way more about this shit than I want – so that’s 80kg of water. Let’s say I weigh 80kg too.

Yeah, I know I don’t, you don’t gotta tell me but I’m playing it safe. No need to rub my lack of ass in my face.

That’s 160kg of tub contents. But then I ain’t on Earth, so it’s only about 60kg.

Hab canvas, unsurprisingly, is waterproof and water tight, and I got plenty of water. I weighed down the edges of the canvas to counteract the weight of the water and filled my new hot tub with all the books and binders and heavy equipment I could move until I figured that nothing was gonna tear, split or rip away from the fixations.

When it didn’t, it was water time.

It took me longer than I wanna admit to get enough water into the hot-hammock-tub because it hurt like fuck to bend and lift and twist and bend and lift and twist…

Y’know, all the shit you shouldn’t do when your back is fucked. But I got my Jacuzzi in the end.
Well, it’s more a tub so far, but I can add the ‘hot’ part.

I stole the pump from the Water Reclaimer – I’ll be fine without it on for a while – and hooked it up to my RTG-water-heater and put input and output lines into my tub to work on the ‘hot’ part. With the sorta energy the RTG gives off, it’d take about one second to increase the temperature of one kilo of water by one degree.

Which meant, seeing as how there’s a fuck tonne of water in that hammock, that I had some time to kill.

I’ve not had a bath since I left Earth. I’m filthy and even without shampoo and soap, a bath is what I need; caught sight of myself today in the reflective face plate of Wilson’s suit.

If only my sister could see me now. She’d piss herself laughing. I’ll admit that all accusations that she slung at me when I was in high school were true – I spent longer in the bathroom than she and ma combined.

And not doing what you think I was doing, you degenerates.

I was right a while back – I had to steal one of Nat’s hair ties and scrape my hair back into a little ponytail but I can’t be bothered to cut it. Wanna know something gross? When I took out the tie, my hair practically stayed where it was. Definitely need to do my best with warm water and scrubbing.

It took almost a couple hours to heat all that water to steaming but once it did…

It was practically orgasmic.

My back muscles began to relax almost instantly, even my arm was soothed and you couldn’t have winkled me out of that tub with a crowbar.

And running through the tubes on the RTG as it was, the water was never going to go cold.

I love science.

And radiation.

Let’s not tell the NASA geeks that I was using the box of death to take a bath.

**Log Entry: Sol 207**

I have become the bath King.

Gotta hand it to the Romans: they knew their shit!

I’ve spent the last week taking twice-daily baths – my hair isn’t exactly clean but it ain’t the greasefest it was before so I’m taking it as a win - slowly and gently learning the stretches that are stored on Barton’s computer and following the pilates on Natasha’s to keep my back warm and supple as possible.

Mostly, I lounged in relative comfort until I spent most of my time doin’ my best prune impression. I got real good at it. Fell asleep in the damn thing a few times. Lemme tell ya, a crappy sitcom, a salty potato, and a bath is the shit dreams are made of. Now I know why my sister practically lived in the
bath back home. To think, I’ve spent all these years standing up while washing, like some sorta chump.

Never again.

Hey, it’s medicinal. I got no doctor up here, I ain’t taking any risks, especially with my back – the rover and MAV modifications are gonna be physical.

I’ve re-watched the best of Barton’s drive – which didn’t take all that long - and then moved on to Steve’s for something to fill the silent hours between waking and sleeping – I miss other people’s voices so even if I’m not watchin’ it, I’ve taken to playing any old movie in the background while I work. It’s an eclectic mix of stuff and some of it is shittier than Barton’s taste, but some of it is awesome.

For reasons that should be obvious, I skipped watching 2001: Space Odyssey but I did kick back and relax with some ‘I Love Lucy’, while I wrote notes, made lists and composed emails.

Emails I can’t ever send. But I wrote ‘em anyway.

Dear Steve. I found your mother’s photo when I was looting your stuff – sorry about that, but I kinda need everything I can get my hands on – and she’s safe with me. The picture is tucked into the lining of my suit and I’m bringing her to Schiaparelli with me. I’ll look after her.

Birdbrain, I think I’m gonna have to start calling you Aurora with all the birdsong and shit that’s in your stuff. Admit it, you keep pigeons on your roof, don’t you? You stand in Central Park all covered in little chirping birds that you talk to. You’re all piss and vinegar with me, but I know the truth now.

Becca,
You were right – baths are fuckin’ awesome. You ever tell anyone I said that, I’ll deny it to my grave. Oh, probably shouldn’t talk about graves, huh? But I don’t really wanna talk about baths with my baby sister. Y’know, the one I used to give baths too. Bet you didn’t know about that, huh? I was saving it for when you brought home a guy you really liked. Not one of those shitheads you used to bring home, the ones not worth the fuckin’ oxygen they were taking up in Ma’s living room. Nah, I was keeping it for the guy that made you all gooey, then like the stealthy brother I am, I was gonna bring out the pictures Ma used to take, me longsuffering and completely covered in water because you used to splash the shit out of me, and you totally naked and laughing your ass off.

No I won’t tell you where the pictures are.
No, they’re not in my room.
No, they’re not in my apartment.
No, Ma doesn’t know where they are.

Thinking about embarrassing you gives me extra motivation to get my ass home and I ain’t gonna let you find or burn the goods.

I also thought.

A lot.
About how to get back to my crew so I could say stuff to their faces, and not the blinking cursor on my screen.

Even having worked out the power issues with the Life Support Duo, more juice is always good. To that end, I’m gonna need more solar cells, just like when I travelled to find *Pathfinder*. Back then I stacked them up on the roof in 2 stacks of 7, but this time I’ll be able to carry more, even with half of the trailer’s roof being missing.

Having an Oxygenator day every 3 sols isn’t good enough. It really isn’t. I gotta get that up somehow, and the way to do that is to up the juice I can feed to it.

More juice, the more oxygen the Oxygenator can free and the longer between dead-days I can go.

Seven extra solar panels is good.

But let’s take a leaf outta the Oxygenator’s book and get greedy.

*Fourteen* extra panels would be perfect.

I haven’t figured out the how of transporting that many, but here’s the why.

It’d gimme 38 star-shields to fuck around with and that’ll up me to 5 sols between Oxygenator days.

If I can figure out a way to store some of that excess energy, I could also seriously up my distance travelled per sol.

Maybe up to as much as 100km per sol.

Yeah, you read that right – 100km.

But it’s down to that tricky *if* word.

I’d need to take 2 of the Hab’s 9kwh fuel cells and find somewhere for them in the convoy. They ain’t heavy but they’re big and bulky and so far the only way I can figure to transport them is on the outside of the rovers, which would, ironically, reduce the amount of space to store the solar cells thus rendering the need for the batteries to store the excess power moot.

*But* without *Pathfinder* taking up my flatbed, I could, possibly, get the batteries on there. Or at least one. Which would be good, ’cos those fuckers will take up a craptonne of room in my Hab-away-from-Hab. That’d just leave the panels.

Damn, 5 sols between Oxygenator days and 100km daily…

That’d be fuckin’ sweet.

I’ll take some of my beloved caffeine and put the ole grey matter onto the problem.

In the mean time, no more lounging. I’ve not checked in, or even gone outside. Whoever is on space paparazzi detail is going to be getting hammered with calls as to whether I’ve been spotted.

I’ll throw ‘em a bone and do a little rock haulage.

*’Hurt back. Am Better. Continuing mods.’*

Sure, it sounds like a telegram but it’ll get the point across.
Just in case, after all that shifting of geology, I better take a bath.

For medicinal concerns.

Just to be careful.

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**Log Entry: Sol 208**

I need ‘em.

28 of ‘em.

Time to play Tetris.

I shut down New Brooklyn’s non-essentials so I could temporarily steal the solar panels from the array and got to work.

My Tetris attempts just would not take.

The only way I could find to get all 28m panels onto the rovers was in stacks so high that when I turned, braked or hit a rut, they all went tumbling down.

There’s just no stability and I can’t risk getting one or more panels damaged because if I get part way out there and I fuck my power cells, I’m dying out there.

If I had two roofs, it’d be easy. No problem. But nothing is ever easy. Not on Mars.

I *need* the hole in the roof of the trailer, otherwise the Atmospheric Regulator won’t fit. But I need those other solar panels too.

I can fit 21 on the roofs, so where do I put the other 7?

Only got one place I can think of.

The sides of the rovers.

First thing that has to go is the saddlebags. They’ve served their function beautifully, but they’re no longer necessary; with the rovers linked, they share their electricity as well as their air. Returning the stolen battery back to Rover 1 will free up the sides of the Funvee *and* will negate the need for the EVA to switch cables.

It took a while to get everything back where it came from but it was worth it. The saddlebags I folded up and set to one side – never know when you might need something and up here so make do and mend is a way of life.

Bucky, why the fuck don’t you just use the saddlebags to carry the panels?

Not stable enough.

Not even close. Even if I rolled them up – which I don’t really wanna do – they’re too tall. One bounce and they’re hopping out the leiderhosen and hitting the floor. Or even worse, bouncing under the wheels.
I can’t risk tht shit.

Instead, I spent a while staring at the rovers like they were hung on a wall in an art gallery, just waiting for inspiration to strike. Then I got my duct tape and clambered into R2D2. My plan wasn’t fully formed, but I figured I could try.

Guess making my hammock hot-tub inspired me.

Eyeballing it, I figured the roof of the rover is wide and long enough and started ripping off lengths of tape. Then I stuck the lengths sticky-side together to form ‘slats. Once I had four, I fixed them to the roof across the width of the rover. Then I stuck more duct tape over the top to really stick them in place.

Then a few more strips to *really* make sure,

It’s not like I’m completely reliant on the panels for life or anything.

Then I went to get a panel.

Took me three seconds to realise I was never gonna get it through the airlock. So I had to roll it, which was nerve-wracking as fuck. Thirty minutes later I just about managed to feed it between the slats and the roof and my concept was proved.

Flawed as fuck, but technically do-able.

But as nothing in my life is quick or simple, while *I* could carry some extra panels that way, it’d gonna be two or three at max. The panels are relatively thin, but they’re still long and pretty unwieldy what with their size. I don’t wanna risk using more of the resin I’ve got, so it’s duct tape construction inside the rover or nothing at all. I can’t risk a drill near R2D2 and the AR will be render it impossible to carry panels inside the Funvee like that.

But it *had* given me an idea.

Instead of using the roof, I can use the underside.

Carpentry isn’t totally my thing, but even I can make ‘L’ brackets and attach them to the rover’s undercarriage – which won’t compromise the pressurised compartment – and make a shelf. That’d net me 2 per side of the rovers, giving me 29 solar panels total.

I’d have a spare panel!

Fuck yeah!

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**Log Entry: Sol 209**

Because I left the solar cells with the rovers last night – I didn’t try and reattach them to the array in the dark, and I’m lazy as fuck sometimes and didn’t wanna have to detach them all again in the morning – I spent an uncomfortable night in New Brooklyn running on power-saver mode. I was able to turn the heat back on, but only up to 1*C to conserve what power I could.

Which meant it was fuckin’ cold.

Right up until I moved the RTG into my boudoir – we’ve bathed together, might as well move the
relationship to the next level – and it took a little while, but soon my little end of the Hab was toasty and warm.

Who needs solar panels?

…Oh. Right. Me.

I had a hearty breakfast of potato – which I’m already starting to dislike and it’s way too soon into my potato diet to start getting sick of ‘em – and suited up. Sooner I got the brackets in place, the sooner I could reattach the panels and return to a world of balmy warmth throughout the Hab.

Hello MAV struts. Welcome to your new life.

The metal of the struts is some of the only metal up here – almost everything is strong composite – and it’s really fucking strong because it needed to support the MAV landing. These solar panels are going to be my lifeline – I can’t risk ‘em falling.

Between a vice and my hammer, it was the work of only a few minutes – and some rage - to beat the strut pieces into the correct shape.

Nice and simple for fucking once.

What is Mars playing at, that things are going well?

It’s practically suspicious.

When I finished attaching the brackets, I went about carrying out some more good ole proof of concept tests. Which is a really scientific term for my hitting them with a hammer.

And then a rock.

Science, baby!

The difference between fucking around and science is writing it down.

Like I’m doing right now.

Science – a man, his hammer and the notes he takes.

Convinced it’d not all fall to shit – suspicious as shit of Mars right now – I loaded up the the bracket-shelves with the panels and went for a test drive.

The cells stayed right where they were put.

29 cells are going to Schiaparelli!

To celebrate, I dragged the cells back to the array, and hooked ‘em up and returned New Brooklyn to full power.

Sweet, beautiful heat is mine!

Log Entry: Sol 211
I have been Mars King, I have been Bath King, and today I became Rover King!

I was a man that fucked with his life saving rover and didn’t fuck it up or die.

Are you applauding? You should be applauding.

I *can* wait, y’know.

I started my morning in suitably merciless fashion – I stripped down the rovers like I was workin’ at a chop-shop.

I need all the space I can get in both rovers. Part of that is making sure I only take absolutely vital items with me, but an equally important task is to make sure to remove anything from the rover that is already in there, that is unnecessary.

Like the passenger benches. What? You think I’m gonna be picking up hitch-hikers on my journey?

Like the trailers nitrogen, oxygen and carbon dioxide tank assemblies, minus one empty CO2 tank I left in there. The hook-up between the rovers shares their air and the Funvee will still have its tanks, plus I’ll have the Life Support Duo.

Like the driver’s seat in the trailer as well as the control panels. They’re taking up spaces for no reason, though I saved the computer system from the trailer and placed it in R2D2 as a spare.

All this gutting netted me a veritable football stadium’s worth of space.

Okay, not that much, but y’all get the idea.

So, more Tetris.

First up, the purple straight lines.

Otherwise known as the 9kwh Hab Batteries. They’re 2m tall, 0.5m wide and 0.75m thick. They’re bulky but light and at least they’re not a stupid shape. I detached two from the Hab – it’ll be fine so long as I reattach ‘em by nightfall – and dragged them outside.

Now, I could make like a guy trying to get a couch into his apartment through a tiny door, and pivot. It would take away but I got skills. No patience, but skills. But the bastard things would take up easily half of the available space, and if they’d fit on the flatbed and not impede the gizmos…

I had to borrow some of the bondage gear from *Pathfinder* but with some shoving, a lot of swearing, and no small amount of being shit scared one end would slip from the rover while I was securing the other later and I had both batteries secured to the flatbed. With a little clumsy wiring – goddamn fuckin’ EVA gloves – I got ‘em linked up into the power lines and I had saved a fucktonne of room inside.

Fuck yeah!

I got my extra panels *and* the batteries to store the excess power they’ll create.

Take that, 91 sol journey. Take – *fucking* – that.

I’m getting ready, baby. See my crew again.

Speaking of the Valkyrie resupply probe is launching in 2 days.
I’m terrified something is going to go wrong.

This whole thing, saving me, getting me home…it ain’t just me anymore.

It’s them.

I’ve been in danger for months now. I’ve grown accustomed to it.

But not them.

Dying would be…well, it’d be utter shit, but something happenin’ to them?

They’re my crew. They’re my friends. They’re my family.

They can’t die for me.

They just can’t.

I tell myself a million times a day that they’re the best.

Literally the best in the world or they wouldn’t have been chosen for this mission.

But I can’t bear the thought of something happening to them. Not just to save me. I ain’t worth it. I’d rather take my own life than them risk theirs.

And I’m not going to know how it’s gone until I get to Schiaparelli.

Good luck guys.

Be safe.

Take care of each other.

Don’t be fuckin’ stupid, Rogers. For once in your fucking life, take the safe option.
Clear Skies With A Chance of Satellite Debris

Chapter Summary

Back on Valkyrie, the crew is preparing for the second stage of the Avengers Initiative. On Earth, two countries come together to save one man.

Chapter Notes

There is dialogue between Loki and Thor lifted directly from Ragnarok, so spoiler warning there for those that have not seen it.
There is also a casual mention of potential canibalism in case that makes anyone uncomfortable.

“Peggy?”

“I’m here…” Steve’s best friend’s voice came through loud and clear, the video transmission linking up just a moment later. Peggy Carter was a sight for sore eyes with her bright eyes and wide smile, red lipstick perfectly applied, not a hair out of place. In her crimson dress, she stood out like a sore thumb from her surrounds, the drab beige of a NASA control room fading into insignificance.

Hers was the first face other than his crew that Steve had seen since they’d left orbit.

Even after all these years it still took his breath away how beautiful his best friend was. Over the course of their friendship both they, and others, had remarked how much easier life would have been had they been attracted to one another. Sadly, though they’d been thick as thieves from their first, or rather second, meeting, it wasn’t to be.

Peggy, or Agent Carter as Steve had first known her, had been embedded with Steve’s unit as part of an allied intelligence taskforce. Their first meeting had been less than auspicious, the quiet Steve overshadowed by the other soldiers, many brutish and loud, and less respectful of a woman – and superior officer- than they should have been. Still, Peggy had caught the smirk Steve had failed to hide when she’d landed one hell of a haymaker on Hodge’s jaw when he’d made one too many inappropriate comments in regards to her chest.

Their second meeting, however, had gone much better. Intelligence had come in on a group of radicals in the region calling themselves The Hydra led by the vicious Johann Schmidt. The Hydra had been planning the bombing of a local town during an annual festival, and while others in his unit had been arguing in support of an immediate strike against where the group were expected to be, a small village a few klicks from the town, Steve had been studying the data and the large map on the wall. In a room of shouting and near-brawling, Steve’s little corner of silence had been deafening. And no small amount of intriguing for Peggy, and she’d quickly abandoned the testosterone-fueled pissing contest going on behind her, and joined Steve at the monitors. It’d taken some prodding, but soon he’d explained his own plan, his intelligence and tactical mind revealed. It’d been risky, far more so than any of the other suggestion still being bellowed on the other side of the room, and it’d taken every ounce of Peggy’s not-inconsiderable persuasive charm and clout to convince Colonel
Dooley to go forward with it, but it had been successful.

Not one life lost, and no casualties.

The pair had been inseparable ever since.

“So, I hear you’re going to be home late.”

“Well, you know how it is, with the transmission delay, I can’t just call my ride.”

“You always have to pick the hard way, don’t you Steve?”

“It’s the right way, Peggy.”

“Never said it wasn’t, Steve. You always were so dramatic, no wonder you couldn’t help yourself from riding in like a perfect white knight.” She needled.

“I am not a white knight!” Steve spluttered.

“Disobeying direct orders, taking your Director to task and carrying out a mutiny, all to save the man you love. No, you’re right, you’re not at all a white knight.”

Steve rolled his eyes, shaking his head at his friend.

“You’re Prince Charming.”

“Peggy!”

“Alright, alright,” Peggy held her hands up in surrender.

“I’m only doing what you taught me, y’know.”

Peggy laughed, a bright and happy sound that Steve had missed.

“How’s that?”

“You’re the one that taught me only to compromise where I could. That if something was right, even if the whole world was telling me to move, that I had to plant-”

“ -yourself tree, look them in the eye, and say ‘No, you move’. Who knew that was gonna come back and bite me in the ass?”

“Or that I was even listening?” Steve teased easily. He’d missed this, missed their talks and their easy camaraderie.

“You know, now you’ve met the right partner, I think we should go dancing,” Peggy’s tone turned sly.

He took it all back. All of it. He hadn’t missed Peggy. At all. Or her meddling ways.

“Peg, no. You know I can’t dance!”

“I demand to meet this young man of yours.”

“He’s not—”

“Yes he is,” Peggy refuted with ease. “I can see it. I heard it in your voice when you met him. You
rang me the moment you got back to your hotel. Do I have to remind you about what you said?"

“Please don’t,” begged Steve, mortified at how he’d prattled on about how gorgeous Bucky was, and wondering for hours about whether he’d really seen in the other man’s eyes what he thought he’d seen.

“If it hadn’t been for my blasted business trips – remind me never to agree to a conference with Thompson again, and if I had time I’d tell you all about what that jackass did in LA – I would have met him already. You’re going to introduce us.” Peggy announced it as a fait accompli.

Steve knew it was. Once Peggy set her mind to something, it happened. After all, one did as Peggy said.

“If I say yes, will you leave it alone with the dancing?”

“Absolutely not!” Peggy broke into a wide grin. “We’ll go dancing,” she announced, “I’ll bring Daniel.”

“I’ll step on Bucky’s toes.”

“Then I’ll have them play something slow you can sway to, and tell him to wear steel-capped boots.”

“Peg…”

“Life is so much easier for you, Rogers, when you just do what I tell you. We’re going dancing,” she declared. “We shall have fun. I might even hold myself back from sharing every embarrassing story about you I know.”

“How kind,” Steve replied, blushing and knowing Peggy could tell. He let go of the edge of his desk and purposefully let himself float partially out of shot until he felt his cheeks cool.

“Are you using zero-gravity to evade me?!” Peggy’s tone was mock-outraged.

“I can’t help it,” Steve denied. “We had to shut down the spinning of the ship so we can dock with the probe. No gravity.”

“Hmmm, and you just happened to float away just then.”

“What can I say, it’s deep space.”

“Child.”

They chatted for several minutes, Peggy muttering darkly about her co-workers and filling Steve in on all the latest developments with their friends, as well as any random information that hadn’t yet been compiled into an email until someone crossed behind the chair Peggy was sitting on, leaning over to whisper in her ear, her smile fell for a moment, before she caught herself and smiled wide again.

“They’re telling me I have to go now.”

Steve’s own smile faltered; it’d been so long since he’d spoken with his friend, and the last few minutes weren’t enough. He needed to speak with his friend, find the comfort and support that she’d always provided for him. He wasn’t ready to say goodbye.

“Oh, okay.” Steve waved at the screen though his heart sank. “I’ll see you real soon. I promise.”
“Wait!”

Steve hesitated, hand hovering above the button to terminate the connection.

Peggy pressed a kiss to her fingertip and blew it to the camera.

“Go get him.”

Rhodey yawned, stretching his arms over his head as best he could, knuckles still banging into the overhead panel of the airliner he’d been trapped in for fourteen and a half hours.

Fourteen and a half hours of being trapped with Tony.

A bored, and agitated Tony.

Rhodey wasn’t ever going to get a medal for not having killed Tony, but sometimes he really deserved one. He loved his best friend like a brother, and while most of the time he found himself quietly amused by Tony’s behaviour and ability to say what he was thinking without censor, there were times when Rhodey could happily punch him in the face.

This was one of those times.

Several rows in front of where they sat, Rhodey could just see the top of Fury’s head as the man turned out of the aisle and towards the fuselage door and freedom, the Director having invoked his privileges to avoid Stark at all costs and sitting as far away from him as he could.

“When are we going to the veldt for the launch?” Tony asked, for what felt like the tenth time of the day.

“Do you even read the packets you get?”

Tony grinned.

“Why do we bother giving you them?”

“Not sure really. Be better for the environment, if you all stopped forcing them on me. You know I don’t like being handed things.”

“Why do you think I give them to Pepper? If I gave them straight to you, you’d just refuse to take them or ‘accidentally’ leave them in a shredder.”

“And yet you keep trying…what is the definition of insanity? Doing the same thing, the same way and expecting a different result?”

“Really? I thought it was ‘Tony Stark.’”

“Can’t wait to get to the hotel,” Tony grumbled, changing the subject, shifting his carry on further up onto his shoulder as they made their way down the aisle and towards freedom, ostentatious sunglasses already perched on his nose. He waved at the stewardesses standing by the door, winking at them as he passed.

“Ladies.”
“Stark, get off the damn plane,” Fury growled from just inside the umbilicus.

“Hotel awaits,” Stark said with relief as they entered the terminal proper of Wakandan International Airport.

“Not so fast,” Fury denied. “We’re US Governmental Officials, you know how much paperwork we’re going to have to fill out at Customs?”

Rhodey stared with ill-concealed envy when the Wakandan citizens among the plane’s passengers split off to go through their own, far simpler, point-of-entry procedures, the queue near non-existent, people moving through with speed and, to Rhodey’s exhausted and faintly neurotic eye, no small amount of smugness. On the other side of the great hall, the line for international arrivals was already huge and barely moving.

Great. Hours with Tony and nothing to entertain the other man apart from Fury and himself. And there was no way Tony was going to needle Fury too much after the Initiative gamble, which meant all his attention was going to be on Rhodey.

Fan-fucking-tastic.

At least they were finally in Wakanda, with only a day to the launch of Kimoyo Prime.

“Excuse me, Gentlemen.”

All three men turned to see a beautiful young woman with close cropped hair in a bright yellow knee-length dress, and a stack of folders in her arms which only subtly highlighted the muscle tone and strength of her arms.

“My name is Nakia,” she introduced herself. “I am… Nakia hesitated, Rhodey glancing to Fury who was studying the young woman with suspicion, “an employee of the Wakandan National Space Administration. I am to be your translator, and your guide.”

“Don’t you dare,” Rhodey hissed as Tony opened his mouth to say god alone knew what, but from the expression on his face, Rhodey could hazard a guess it might cause an international incident. Rhodey wasn’t stupid. He knew full well the woman before them was a member of the Dora Milaje and therefore not someone to irritate, annoy, or piss off.

All of which were Tony’s forte.

Ordinarily that would get him punched at most, but Rhodey suspected that Nakia, and the rest of the king’s bodyguards, would start at punching and only escalate from there.

He also hadn’t missed, and was sure Fury hadn’t either, that four other women had fallen in behind them the moment they’d left the plane. He’d recognised one from the journey, the young woman having been sitting a few rows ahead of Tony and himself, the other three waiting for them in the terminal. It was nothing less than what he had expected – King T’Challa may have offered special dispensation for them to enter the country, for their nations to co-operate, but that didn’t mean they were trusted. They were going to be watched until the very second that they left Wakanda.

It made the back of his neck prickle, and his hand flex around a weapon he no longer carried, but if it meant they could save Barnes, he’d endure.

“Nick Fury,” Fury introduced himself. “And these are James Rhodes and Tony Stark.”

“Oh yes, I have heard much about Mr Stark.”
“Really?” Tony drawled stepping closer. “Like?”

“Do you really wish to know, Mr Stark?” Nakia countered, unimpressed.

“Probably not, now you mention it.”

“Will you be able to help us with the forms when we get to the front?” Rhodey asked, changing the subject as he gestured to the desks far ahead of where they stood.

“I can do far better than that, Doctor Rhodes. You are official guests of His Highness and as such you have been pre-approved through our usual checks. I have been cleared to escort you directly to your hotel. I am sure you are in need of refreshment and rest.”

“Will you marry me?” Rhodey blurted, overcome at the idea of a shower and sleep.

“Already spoken for I’m afraid, Doctor Rhodes. But I appreciate the sentiment.”

“I see you’ve taken on my Initiative.”

“It was your idea, my love,” Thor beamed at his wife.

“Oh, that’s your excuse for leaving me for another year.”

“Well, yes.”

“It’s not terrible, as excuses go.” Jane smiled. There was a scuffle off camera, a high-pitched voice too muffled for Thor to understand. Jane turned her head towards the commotion, returning her attention to the camera with a sigh.

“Darcy says hi.”

There was another muffled conversation and Jane continued, “She wants to know how space is.”

“Space is fine, Darcy.”

That seemed to appease the young intern and Jane’s focus returned to her husband.

“Are you alone?” Thor asked. The positioning of the camera in whatever space off the main Control Room had been utilised to give the family and friends of the crew some privacy as they talked was, shockingly enough, focused on the chair. He couldn’t determine the size of the room, nor if there was anyone else with his wife.

Jane peered around the room.

“Yes. There’s someone else here to talk to you later, but I’m alone now. And this isn’t being recorded either.”

Thor nodded and took a deep breath. “What cost to you was sending the Initiative?”

Jane shook her head, shrugging the question away. “It’s not important.”

“Jane,” pressed Thor.
“They only suspect I was involved. I’ve been suspended but I don’t care. This is a man’s life. They’ll get over it when you bring Bucky home.

“You always were unspeakably brave.”

“They weren’t going to do the right thing, what choice did I have?” She dismissed the subject with a wave of her hand. “I don’t want to talk about it anymore.”

“As you wish.”

“Instead,” Jane smiled broadly, transforming effortlessly from beautiful to stunning, “let’s talk about how you might have gotten to Mars, but I was nominated for a Nobel Prize yesterday.”

“Your Highness.”

“Commander Rogers.”

“I wanted to thank you.” Steve looked off to the side as he gathered his thoughts. Gratitude seemed too small a word, too trivial a thing for the feeling that swelled in his chest. The world had been ignorant to the Kimoyo Prime’s existence. Wakanda hadn’t had to step in to help and yet here they all were. “I just don’t know how.

“You’ll never understand how grateful I am, we all are, for this chance. For your help.”

The King smiled. “Oh, I do. I see it in your face,” T’Challa assured Steve, “you are a warrior, like me. It is abhorrent to you to leave a man, a good man, behind. I will not abandon someone to die, when I have the means to save his life. Your appreciation is unnecessary.”

Steve laughed harshly, a strangled sound that was moments away from a sob.

“I also know what is to be a man in love, and to have that love in danger.”

“Your-”

“Let us not play games, Commander. You have the chance to save yours, you must take it.”

“Just don’t freeze!”

Steve frowned at the small screen on his station as before his eyes, King T’Challa’s shoulders slumped and he rolled his eyes in a decidedly unregal manner.

“Shuri, get out.”

“I’m trying to tell the Commander to be better than you.” On the screen a young woman muscled her way into frame by the expedient manner of pushing the King’s chair to the side. She waved at the camera, and Steve found himself waving back despite himself.

“Hey, Captain America!”

“Hello?”
“Like I was saying, don’t freeze when you get there. We’re already helping you save Barnes, we don’t need another broken white boy to fix.”

“Uhuh.”

“Okaye!” The King reappeared, wrapping his arms around the young woman and carrying her out of sight, her legs kicking against his hold the whole time, though she was laughing as she was carried. “Take her out of here. Lock her in her lab if you have to.”

Steve hadn’t the faintest idea what was happening, but he was charmed nonetheless to see the seemingly untouchable King’s softer side. The side that had likely been responsible for his offering of the *Kimoyo Prime* in the first place.

Off-screen there was a scuffle and the slamming of a door, and then T’Challa reappeared, straightening and smoothing his clothing, before sitting down, his shoulders more relaxed, a faint smile on his face, the rigidity of his earlier appearance broken.

“Have you any siblings, Commander?”

“No.”

“Must be nice.”

“That was your sister?”

“So my mother insists.”

“She seems-”

“Loud? Rude? Too smart for her own good?”

“Nice. Decent advice.”

“Shuri’s responsible for much of the tech in the probe we will be sending, so I suppose she wants to ensure that you don’t mess up at your end.”

Steve couldn’t hide the surprise on his face, and T’Challa laughed. “Don’t let her see how impressed you are, I will never hear the end of it.”

“For what it is worth, I am far more comfortable with my country’s technology being used in this fashion, than in the choice your Director originally made. Had his choice gone ahead, it would have been with someone else’s technology.”

Steve’s gaze snapped towards T’Challa, the King’s expression giving nothing away. Steve didn’t bother asking how the man had learned of the alternate plan to send *Zephyr II* to Mars; T’Challa likely wouldn’t answer anyway.

“You are deeply loyal to your crew, Commander Rogers, I admire that. It is part of what convinced me to allow you to use our rocket.” The King waved a hand at the immense screen behind him that showed the final preparations to the rocket and its precious cargo. “It is what convinced me to allow your associates to enter my country.” Given Wakanda’s history, all aboard the *Valkyrie* had too been surprised that the ground crew have been granted access, even more so that Tony had.

On Steve’s screen, the King’s attention was called off to the side, the imposing man moving out of shot again for a moment, a whispered conversation taking place that Steve could not decipher.
Coming back into shot, the King reached for the jacket that had been draped over the chair, shrugging into it with ease, smoothing down the lapels.

“I must depart now, Commander. May the spirits of our ancestors grant that we succeed, and that you reach Barnes in time.”

“If you don’t mind me saying,” Steve started before their conversation could end, “for a man who so clearly disapproves of diplomacy, you’re very good at it.”

“I could say the same, Commander.”

At the palace, an immense structure that awed even Tony who was a man used to the architectural excesses of his father, they were met by two imposing men at the base of the steps. The older of the two men stepped forward as soon as the cars pulled silently away. His hair and beard were a pure white, standing out against the dark of his skin. As soon as the small group reached him, he nodded to them but didn’t extend his hand.

“I am N’Gassi.”

“Then can I suggest you don’t eat beans – ow!” Rhodey elbowed Tony, hard, for good measure.

“Shut the fuck up,” he hissed as he glowered at his friend before bowing to N’Gassi. “James Rhodes. Thank you for allowing us entry.”

“Who’s the tribal Uncle Fester?” Tony asked, jerking his head at the immense man that stood behind N’Gassi. He wore wide gold cuffs at both wrists, a thin band around his left bicep, his locced grey hair hanging down his back. In his right hand he held a spear, its Vibranium tip glinting dangerously in the unrelenting sunshine.

“Unimpressed with you, maggot.”

“Making friends already, Stark?”

“I’m a friendly guy, Nick,” Tony answered with a smile as Nakia hustled the group into the Palace, the cool interior a welcome relief from the blazing heat and humidity that had greeted the trio the moment they’d stepped off the plane.

As they reached a heavy set of ornate oak doors, another woman nodded to T’Challa before falling into step beside Nakia, bringing their lethal escort to six.

“So, not that I don’t enjoy being tailed by En Vogue and all, but—”

“Tony!” Rhodey hissed. “Do me a favour and shut the fuck up.”

“I am Okoye, King T’Challa’s personal…pilot.” It was clear from the young woman’s tone just how she felt about the perceived demotion. “I am to escort you to our scientific center in the veldt for the launch after your meeting.”

“So, where is he?” Tony peered around the opulent office.

“If you are referring to my Lord King, he has yet to leave a meeting.”
“Oooh,” Tony crooned, not listening as he ran his fingers along the rim of a large console embedded in the wall opposite T’Challa’s desk. “This. Is. Nice.” A screwdriver appeared in his hand, from where Rhodey didn’t want to contemplate, nor how the man had gotten onto a commercial flight with the damn thing, and just before Tony could use it to pry at the housing, Rhodey slapped his hand away, a short tugging match breaking out over the tool.

With a huff, Tony gave up the screwdriver, Rhodey’s win too easy for comfort.

“But we are expecting his Royal Fancy-Feast, right? He knows we’re here?”

“Everyone knows you are here,” Zuri answered with ill-disguised disgust.

“So we’re hanging out together until he comes? I wonder how I’ll alleviate the boredom.”

“What you do is irrelevant to me.”

“Quite the welcoming committee, aren’t you? I’m guessing something got lost in translation there.”

“I speak ten languages, little man. What I said was what I meant.”

“Aren’t you a pound of delight in 220 pounds of hate?”

“Tony!” Rhodey hissed, making a grab for his friend while trying not to draw the attention of the terrifying guards that stood by the door. The assembled Dora Milaje were whispering to each other, and though they all eyed Tony with distrust and a degree of disgust, none had stepped forward or reached for their weapons.

“Do not mistake restraint for indifference, Mr Stark,” N’Gassi intoned, jerking his chin towards the guards. “You would do well to understand that though the Dora Milaje are speaking in Wakandan, they are listening in English.”

“Tony, stop!” Rhodey tried.

“No, sorry, I’m a bit distracted here.” Tony hunkered down next to the ornate desk, the King’s desk, and sliding a pen out of his pocket, using the nib to poke at a small metal device that sat on one corner.

“No.” Rhodey smiled at the large man that was glowering at Tony like he wanted to rip his head off, and stepped over to his friend, grabbing the back of his jacket and hauling him back upright with an undignified squawk. “Not, distracted. You cannot be distracted now. I need you to listen to me.”

“Royal decree, yadda yadda, best behaviour, blah blah, only chance at Barnes’ survival. Be good, blah blah. I got it on the plane.”

“Obviously not.” The accented English was gentle, but the imposing man in the doorway seemed anything but when Rhodey and Tony whirled around to see him. Fury was already standing before the King, hands laced behind his back, and head bowed. A new contingent of bodyguards had entered with him, fanned out in a semi-circle behind their King. Rhodey absent-mindedly wondered just how many of the Dora Milaje there were. Then again, getting a good look at their armour and weaponry, perhaps he really didn’t want to know.

“So you built this, huh?” Tony asked, all the decorum and protocol that Pepper had drummed into him before they left falling by the wayside, plucking up a small device off T’Challa’s desk, tossing it from hand to hand. “What is that, solar cells?” He turned what he held upside down, poking at the hatch he found. “Lightweight yet solid construction,” he tapped it against the desk. “Vibranium?”
T'Challa, and Rhodey, stared at Stark in silence while Fury covered his face with one hand, Rhodey torn between being terrified Tony had just fucked over their deal after all the lecturing and prepping he’d put in, and mildly concerned that he was about to witness an honest to God King put his best friend in jail. When T’Challa stepped forward and ripped the device out of Tony’s hand, Rhodey reassessed the situation to DEFCON 2, wondering if he was about to witness Tony’s murder.

“Gotta say, Your Highness, this Wakandan tech of yours isn’t half bad. I’d say it’s almost as good as Stark tech.”

“I recognise that you intended that as some form of compliment, but I find that your comparison is insulting to Wakandan technology and all those that have aided in its creation.”

“No offense meant,” Tony held his hands up. “It’s cute, I built something like that when I was 16, powered the house for a year.”

“My sister built that when she was six. It powered the city for nearly a decade before she found time to improve upon the design.”

“Oh.”

“Yes. Oh.” The King placed the device back onto the desk, Rhodey slapping away Tony’s hand when the engineer reached out to touch it once more as though he hadn’t an iota of impulse control.

“There will be an understanding between us, Stark.” Tony’s attention shifted back to the man before him. “You are going to work with my people. You are going to learn to work as one of a team. You will agree to being under guard at all times and not provoke them by trying to evade them or going beyond the areas to which you have been granted access. You will find your…charm and wit are quite lost upon these women. They have no sense of humour when it comes to the safety of Wakanda and all those that reside here. Abide by my request and together we shall bring Barnes home, and I shall not carve out your heart. Break these rules and your next conversation will be with your ancestors.”

“Why isn’t he getting the lecture?” Tony asked, indignation rolling off him in waves as he pointed to Rhodey.

T’Challa huffed a laugh. “Doctor Rhodes has respect.” The King’s gaze roved from Tony to his desk, where his device teetered on the edge. “And was not raised by wolves.” T’Challa checked his watch. “I must go.”

“Where will you be?”

“I will make myself available to you when you actually have something to say, Mr Stark.” With a sharp nod to Fury, T’Challa swept from the room as silently as he’d arrived, the Dora Milaje, minus the members tasked with watching over the US contingent, following after.

“It’s a date!” Tony called out just before the door slid shut, anxious to have the last word.
“Loki? I thought Father was coming?”

Loki glared at him before slumping a little in his chair.

“Surprise.”

Loki Odinson couldn’t have been more different from his brother. Where Thor was blond, Loki’s hair was jet black. Where Thor was tan, Loki was pale. Where Thor was muscular and broad, Loki was long and lean. While Thor was easy-going and affable, Loki was sneaky and often conniving. Loki had opted to leave Norway for his further education, gaining his undergraduate degree and later MBA at Cambridge while Thor had remained at home.

How neither boy had even contemplated that Loki had been adopted as an infant until it had been revealed in their late twenties after an explosive family gathering had finally revealed the truth, was anybody’s guess.

“So you’re playing hero. Again.”

“I know what you are thinking.” Thor glanced down at his hands. ‘How did this happen? Well, it is a long story—’

“I know exactly how it happened. I have a television, dear brother.”

“Ah.”

“What I don’t understand, is why?”

“Because he’s my friend.”

“He’s a work colleague.”

“He’s my friend from work.”

“That’s the definition of a colleague, Thor. Do you hear yourself? You’re doing this, risking your life, for the man that works in the cubicle next to you? You’re not serious about this? It is a fool’s errand. You don’t stand a chance, do you understand what I am saying?” Loki didn’t wait for his brother to respond, didn’t give him the chance. “Fine, then I guess I’ll just have to go it alone, like I’ve always done.”

“Loki,” Thor sighed. “It is more than that, and you know it. We are a team. That means something.”

“Well, that’s wonderful. That’s just tremendous. What a fabulous idea you had; ‘let’s steal the biggest, most expensive ship in the solar system and use it to kill ourselves.’ That’s brilliant Thor, truly brilliant!”

“I’m glad you’re pleased,” Thor sighed.

“Knowing you, this little team of yours has some ridiculous name you’ll want me to tell Father when I visit him to inform him of your ridiculous decision.”

“Uh.”

Loki’s eyes lit up. When they had been children, Thor had named their treehouse, their fort, even the teams they’d formed playing hockey on the street. He’d never had much talent for it.
“You have. Tell me.”

“Therevengers.” Thor rushed the words together but Loki was used to his brother’s evasions. That was even better than Loki could have hoped.

“The Revengers.”

“Yes. No. Yes.”

“Oh, Brother. Do you even know what you’re doing?”

“Of the two of us, Loki, which is the astronaut in a spaceship?”

Scowling, Thor lay back in his chair for a few seconds and stared at the ceiling. Then he jerked upright, nearly flying out of his chair in the reduced gravity despite having opted to buckle himself in.

“Where’s Odin?”

“Hmm?”

“You said you’d tell Father when you next visit him. Why would he not yet know? You said you would ‘go it alone’. Why are you not seeing him daily? Where is Odin?”

“Well, shit. Guess I should have kept my mouth shut.” Loki grinned. Or rather he flashed his teeth in an approximation of a smile.

“Everyone is fine. Everything is fine. The family business is prospering once more, without you. Nothing to worry about.”


“What does it matter? You can do nothing about it. You’ll be in space for another two years.”

“533 days.”

“Semantics.”

“Loki, need I remind you of the promise that Heimdall made me before my departure?”

Loki jerked back from the camera, looking pained. Few people had ever intimidated Loki, fewer still had the physicality to back up their threats; Loki was lean but he fought dirty, both physically and mentally. Heimdall was one of the few that truly had a power over Loki, and the man knew it.

“Okay, okay, fine. I’ll tell you what you want to know. No need to get your guard dog involved.”

“What I want to know is where our father is.”

“Shadyacresretirementhome.”

“Where?”

“Shady Acres Retirement Home.”

“You dumped our father-” Just when Thor believed he could never be surprised by his brother, he
was once more proven wrong.

“I made sure he had everything he needed when I left him there.”

“Did he take him inside or just leave him on the sidewalk?”

“It had excellent Yelp reviews.”

“It had – Brother, so help me.”

“You’ll what? Huff, puff, blow my house down?” Loki’s smirk was unbearably smug.

“Are you mad?”

“Possibly,” Loki answered, oddly cheerful.

“Return our father to his rightful place.”

“He’s just fine where he is.”

“Oh yes, the Yelp reviews.”

“Odin saw fit to exile me once, I see no issue with returning the favour now that he requires more than I can give. Mother was far better equipped than I to care for him, but…”

But she was gone now.

“Simply because we failed him as sons-”

“He failed us!”

“Loki.”

“Don’t you ‘Loki’ me.”

“He loves us.”

“You. He loves you, Brother.” Loki spat the moniker, closing his eyes and looking tired. When he did open his eyes once more, he wouldn’t look at Thor.

“Not this again.”

“I’ve never met the man you claim our father is.” Now Loki looked up, and his eyes glimmered.

Thor couldn’t help the tired curve of his lips. He’d wondered how long it was going to take before Loki once more trotted out how Thor had always been Thor’s golden child, while Loki was the regretted mistake. Loki had perfected that particular manoeuvre as a child.

He’d also perfected turning a blind eye to every argument Thor and Odin had ever had, every time Thor had been dressed down in front of all of Asgard’s employees. Thor and Odin had always been too similar in temperament, both men positive they were right, that their way of doing things was the only way. Odin considered Thor too ruled by passion, abandoning logic in favour of action. Thor had considered Odin a meddling old man. Loki had ignored how Odin, in all his bull-headed stubbornness had been against Thor’s match with Jane, doing all he could to freeze her out of the family. It was only Thor threatening to cut all ties with his family should his father not accept that he loved Jane and wished to spend the rest of his life with her, that had Odin warming to her.
And that had been nothing on their blowout when Thor had opted to become a physicist rather than take up his place as the rightful heir to the CEO chair of Asgard.

But none of that had fit into the narrative that Loki had spent decades spinning, and so it was ignored.

“Aren’t you going to say anything?” Loki demanded.

Thor just stared into the camera and shrugged, overwhelmingly tired.

“Say something!”

“What would you like me to say? Do you want me to talk about how the exile of which you speak was actually you running away and breaking our parent’s heart? How about how our mother worked herself into her grave with how she toiled to reunite our family? How about the day I was chosen as the first Norwegian astronaut to go into space, and you spent the evening berating Father as to how you too could have been something more had he ever given you a moment’s support? How you’ve exiled our father to die in some care home?”

Loki’s jaw ticked.

“You know, perhaps it is not only the loving Odin that I have never seen. Perhaps I’ve never seen the honourable Thor that everyone talks about. The office at home is practically drooling over your heroism,” Loki sneered, “and this place almost worships you as a god.”

Pushing his chair back, Loki stood and bent over, getting up close to the camera, his pale face filling Thor’s screen.

“I’m placing a huge wager against this pitiful quest’s success. Don’t let me down.”

The connection terminated and the screen went black. Thor sighed, already mentally drafting an email to Jane and Heimdall for further information as to the situation with Odin and just how difficult it was going to be to reverse.

“Not to interrupt a touching family moment, but your brother is an asshole.” Clint pushed the door open and stuck his head into the room. “I thought mine really cornered the market on douchebag-ery, but that was just…Did he really just hope we fail?”

“That is my brother. He’s long said he would feel no loss at my death.”

Clint frowned and, with an odd swimming/walking action, came fully into the room, perching himself on the edge of Thor’s workbench by hooking his hands around the edge to keep himself in place. “I’m suddenly understanding you a lot more. I’m surprised he hasn’t just tried to off you himself.”

“He has, many times.”

“Your brother has tried to kill you? More than once?”

“He thinks it a game.”

“I don’t wanna be rude, but are you sure he’s not a Cosmo short of a waiting room?”

“A what of a what?”

“A little cuckoo?”
“My brother is not a small bird.”

“Crazy, are you sure he’s not crazy.”

“Oh! No. Just spiteful and mischievous.”

“My brother broke my arm once. He said it was an accident but no way he didn’t see me lying on the couch. But actually trying to kill you? And you think that’s ‘mischief’?”

“That is my brother.”

Clint nodded slowly, wide eyed. “Okay then.” Up on the screen, a message popped up that the next family member had been delayed a few minutes and Clint checked his watch. “I’m gonna grab some coffee before my call.” He pat Thor on the shoulder and moved to leave, but swung his body back around the door jamb a moment later.

“I gotta ask. It’s gonna bug me. How’d he try?”

“First time? We were eight—”

“Your brother tried to kill you when you were eight and you think it’s not a ‘We Need To Talk About Loki’ situation?”

Thor ignored him and carried on. “We were eight. I had a cobra as a pet. It’d been defanged by a previous owner so was harmless. I know not how he got hold of one, but he replaced Mjolinar with an intact snake. I was bitten on the arm. The next time we were twelve—”

“You know,” Clint interrupted, “I think I’m already gonna be having nightmares about this, I don’t think any more bedtime stories are gonna be helpful.”

“Oh.” Thor actually looked disappointed. “If you are sure.”

Clint nodded again.

“He’s wrong, you know,” he offered his crewmate. “Your brother. We’re gonna do this.”

“He doesn’t mean it.”

“Really? Kinda seemed like he did.”

“You don’t know my brother. This is his version of a loving goodbye.”

As Thor switched places with Clint so the doctor could speak with his own brother, he tried to explain The Family Odinson to the best of his ability.

Just as the viewing screen flickered back into life, the face of an unknown analyst filling the screen, a wide-eyed Clint turned to Thor

“Is your whole family crazy?”

“Thank you, Miss…” Fury waited for the young woman to fill in the blank. “Just Nakia is fine,” she answered as she ushered him into a seat beside her own upon the sleek jet that had been waiting
upon the tarmac of the Palace’s private airfield. Okoyo gestured for the other two men to sit as well before she made her way forward to the cockpit, one of the other Dora Milaje breaking off to join her.

“This is nice. Someone wouldn’t let us take my jet here in the first place,” Tony said, staring at Rhodey, settling deep into his seat two rows behind Fury and Nakia, crossing his legs, bouncing his foot and grinning when his friend tried to stop him. Across the cabin, Zuri rolled his eyes and sighed.

“Our team has been enjoying working with yours, this last month,” N’Gassi, sat beside Nakia and Fury, said. “To combine forces in such an endeavour, between two nations such as our own has been unheard of until now. It has been most…interesting.”

“Goes to show – mankind can work together when the chips are down.”

N’Gassi nodded and waved Nakia a little closer, whispering into her ear once he’d glanced over to where Rhodey and Stark were engrossed in something on a large tablet, the two men arguing over whatever it was they were looking at. In turn, Nakia kept her voice pitched low as she whispered to Fury.

“The team has most commented upon your Mr Stark. A very…interesting and challenging individual.”

“That’s one way of putting it,” Fury agreed, “but I prefer, pain in the ass.”

Nakia had to suppress a smile as she spoke to N’Gassi who burst into laughter.

“You might say that, but I could not possibly comment.”

“Comment on what?” Tony asked, looking away from the glass.

“Nothing,” Fury waved him away.

Tony looked suspiciously between the three individuals on his right, eyes narrow.

“I think they’re talking about me, Rhodey.”

“Yup.”

“Make them stop.”

“Nope.”

“So,” Barney said, scratching his forehead as he watched his brother bob about on the screen. “Why you gotta do the…whatsit…EVA?”

“Probably don’t,” Clint answered. “Only if Wilson can’t guide it to the ship.”

“What you gonna do? Go out and catch it?”

“Essentially, yeah.”
“That’s scientific.”

“It works.”

“Can’t Wilson just guide the ship to the probe?”

“She’s too big.”

“Why you?” Barney asked again.

“It’s my specialty.”

“Damnit, Jim, you’re a doctor,” Barney grinned at his brother’s groan.

“And the EVA specialist.”

“So if Wilson is the pilot, and you’re the doctor and that huge guy does the chemical stuff…what does the hot chick-”

“Natasha Romanoff.”

“Ooooh, does little Clint have a crush?”

“Shut up!”

“You do! Aww, sweet, my little bro is all grown up.”

“Shut up!”

“Make me.”

“Barney!” Clint whined.

“You got good taste, bro. I mean, she’s got great,” Barney gestured crudely at his chest, miming the curve of Natasha’s breasts, “and I bet she can-”

“Break every bone in your body.” Natasha came into view just behind Clint, hooking her head over his shoulder and waggling her fingers in a wave to Barney on the screen.

“Hi,” Barney drawled, utterly unashamed.

“Bye,” Natasha answered, pressing a kiss to Clint’s cheek as she floated off.

Barney’s eyes went wide.

“Jealous?” Clint asked with a smirk.

“They’re a strange bunch, you know,” Tony pointed down into the Control Room and the technicians and specialists bustling from station to station, unfamiliar characters filling panel after panel and up alongside the screen that depicted the booster on its pad.
“They make a damn good booster,” said Rhodey, intent on the screen where the *Kimoyo Prime* was being put through its final inspections. He didn’t need to be able to read the language to know that all was going well, the body language of those in the Control Room anticipatory but free of tension.

“You worked the most closely with everyone here,” Rhodey turned to his friend. “Reservations?”

“Nope. The probe fits onto that booster like a glove, and like good old dad always said, no glove, no love.”

“Thank you so much for that insight into your childhood.”

“Anytime. Hey, did they serve you the same thing they served me for lunch?” Tony asked.

“From your tone, I’m guessing it wasn’t the same sandwich.”

“I think it had entrails, in it.”

“My sandwich didn’t,” Rhodey replied smugly.

“Apparently the engineers ordered it special for me.”

“If it had entrails, I’d bet they did.”

“Why?” Tony whined.

“Really? You don’t know?”

“What?”

“They hate you, Tony. They think you’re a complete dick—” Rhodey glanced to where Nakia was watching them out of the corner of her eye, “-tator.”

“If this works, then can burn me in effigy for all I care.” Tony reached into his pocket and held up what he found. “Here, blow on my lucky dice.”

“I’m not blowing on another man’s dice.”

“Come on Honey Boo-Boo.

“I’m so glad we have separate hotel rooms,” Rhodey mumbled as he stared at the control panel he couldn’t read. “Can’t believe you watched that shit on the plane.”

“Someone wouldn’t let us take my jet.”

“Let that go, fer cryin’ out loud! Besides, how does that lead to reality TV?” Asked Rhodey, somehow finding himself sucked back in despite himself.

“The stripper pole is in the jet. I could have watched something far more distracting, but no. You insisted on commercial. *Commercial, Rhodey.*”

“You survived.”

“But God, at what cost?”

“You don’t shut up, *I’m* gonna burn you in effigy. Besides, you know full well Pepper had that removed. As well as your stripper-hostesses.”
“I don’t deserve that woman.”

“Don’t I know it. Stop bitching, we were in First Class.”

“Only because I paid for the upgrade. A Stark doesn’t do coach. I’ve done a coach…professional cheerleaders…she was hot. So bendy-”

“Oh look,” Rhodey interrupted, taking his phone from his poclet and holding it up, “that’s Pepper calling.”

“Shutting up now.”

“Wave to Uncle Sam, Michael!” Marissa waved her son’s pudgy little arm at the screen while the boy in questions tried to gnaw on his toes, utterly uncaring that he was communicating with space.

“Hey big man, how does it feel to be a whole year old?” At Sam’s voice, Michael stared confusedly around the room looking for him, blowing a spit bubble as he did.

“Yeah, that’s how I’d feel about it too.”

“He’s getting total cool man cred at Mommy and Me class – my godfather has gone to Mars, what does yours do?” It was said with a smile, but Sam would swear there was an edge to Marissa’s tone, one he was overly familiar with.

“You’re pissed at me, huh?”

“What? No!”

“Yeah, you are. I promised you I’d help out with Michael and now I’m gonna be up here for another-”

“I’m not a child, Samuel. I married a fly-boy. I knew the risks when I surrounded myself with idiots too noble for their own good. You don’t leave a man behind. You just don’t. There was nothing you could do about Riley. Not a thing. But you can save Bucky. You think I’m pissed that you’re trying?!”

“Uh, no?”

“Damn right!”

Sam tutted her, eyes wide. “You swore in front of the baby!”

“You started it!”

“I’m coming home you know.”

“Damn,” she covered Michael’s ears with her hands, her son squirming in her hold, “fucking right you are.”

“When your son says his first word and it’s a curse, you’ve got nobody to blame but yourself.”

“Still gonna say it’s your fault.”
“I’ll just bet you will.”

“Welcome to The Barnes Report here on CNN on this very special day. Here on the show with us today, we’re welcoming back Director of Mars Missions, Doctor James Rhodes who is joining us live from the Wakandan Launch Center. Hello Doctor Rhodes.”

“Good morning, Christine.”

“Tell us, why is the probe being launched from Wakanda? Why wasn’t the booster brought to Cape Canaveral?”

“I don’t think you understand the sort of undertaking that would require, Ms Everhart. It’s a rocket. It was far easier to ship the probe here than the other way around.”

Christine’s bright smile only faintly dimmed as her eyes narrowed slightly.

“How is the booster going to get the probe to Valkyrie?”

“Valkyrie is currently at an extreme velocity, and isn’t slowing into Earth Orbit as it would normally, were this the end of a mission. The Kimoyo Prime will provide the necessary power to not only leave Earth orbit, but match the speed of our ship, allowing Wilson to guide the probe to dock.”

“It is my understanding that JPL had less than half the time to prepare this probe than they did Zephyr Two. Are we likely to see a repeat of the mistakes of that craft?”

Rhodey’s face shut down and he answered through gritted teeth.

“It may have been finished quickly but it has been finished well and with the aid of the Wakandan government, a lot of people have been working around the clock to ensure that doesn’t happen.”

“What is the payload?”

“Food and other supplies that both the crew and the ship shall need, as well as some specialist medical supplies that Doctor Barton has requested as Barnes will be suffering the effects of malnutrition, as well as equipment that will help him determine the extent of the damage done to Barnes’ arm on Sol 6.”

“Should something go wrong with the probe’s docking with Valkyrie, is all hope lost?”

“We don’t expect any issues – Major Wilson is the best pilot in the world and he’s remotely guided similar craft in the past with a 100% success rate. However, in the event that the probe cannot dock, our EVA specialist Barton is suited up and ready to carry out an EVA to bring it in.”

“That doesn’t seem a very technical procedure,” Christine said, hoping to bring Rhodey back into the interview with a little light-hearted teasing.

“But it works. And if Barton can grab it but not bring it in to dock, he’ll pop the trunk and bring in the containers inside, like unpacking a grocery trip.”

“Let’s hope that doesn’t need to happen.”

Rhodey only nodded.
“Thank you Doctor Rhodes for joining us on what must be an incredibly busy day.”

He nodded again.

“I don’t really know what to say…this is all rather overwhelming.” On the screen, Natasha’s foster father Hank looked nervously at all the knobs and dials around where he was sitting at a command station in Houston.

“Hi, works,” said Natasha, waving at the camera.

“Hi, you.”

“How are you doing down there?”

“I’m good. Debbie from down the street keeps bringing me casserole. I think she thinks I can’t look after myself with you and your mother gone.”

“I think she’s trying to get your attention.”

“Natasha!”

“Father?” Natasha asked, the picture of innocence.

“You only call me that when you’re up to mischief. I have no interest in Debbie.”

“Doesn’t change the fact that she’s hoping you’ll invite her in to share dinner.”

“Not going to happen.”

“Hmmm.”

“Even in space you’re trying to set me up.”

“I worry about you being lonely.”

“Says the daughter who has just chosen to stay in space for almost two more years and leave me here on my own.”

“You know why I’m doing that.”

“You must care for him very much.”

“Now who’s setting me up? Bucky is a good friend, Father, and a good man. If we have a chance to save him, then I’m going to take it. And there is nothing between him and I but friendship.”

“They shouldn’t have asked.”

“We volunteered. Mutinied, actually.”

“Of course you did.”
“We’re good at our jobs. We’re going to come home.”

“You going to introduce me to Bucky?”

“Not if you’re going to be like that. But I will introduce you to Clint.” She gestured off screen, Hank just able to hear a masculine voice refusing to come closer to the camera.

“Barton! Will you just meet my father?”

“I dunno, Nat, that’s kinda serious and – ow!”

“Father, this is Clint. Clint this is my foster father Hank.”

“Hi, Sir,” Clint waved, rubbing at the spot on his head where Natasha had smacked him.

“Doctor Barton.”

“Clint,” Barton instantly corrected.

“Oh yeah, this is going about as well as I’d thought it would,” Natasha muttered.

“So, this is the guy.” On screen a grin spread across Hank’s face. “No wonder you were resisting any blind dates I suggested.”

“This is the guy, Papa.”

“I’m the guy?” Clint asked with a grin, waggling his eyebrows at Natasha. “The guy?”

“Do you want to remain a guy, Clint?”

“Why couldn’t you love someone with a boring job, Natasha?” her father asked with trepidation. “I was never prepared for this. I work at a phone company. Your mother was a teacher. We were never expecting you to – all this – space…astronauts…and now you fall for someone else who-”

“If it helps, sir, after this, I’ll never get sent into space again. Neither will your daughter.”

“Not really. Once she’s back on Earth, then I’ll be okay.”

“She’s coming back, sir. Definitely.”

“Why couldn’t you have been a ballerina, Natasha? You were such a beautiful dancer.”

“We’ve talked about this, Papa.”

“I know, I know. I need to respect your independence, but it is so hard when you’re on a spaceship!”

Just audible over the connection was the soft sound of Pepper's voice, regretfully informing Hank that his time was coming to a close.

“Be safe, sweetheart.”

“I will Papa. And ask Debbie to share dinner.”

Hank made a show of rolling his eyes. “Goodbye, sweetheart.”

“’Bye Papa.”
The connection ended, and Natasha let go of the side of her bunk, letting herself float out of range of the camera now she no longer had to stay in sight.

“Love, huh?” Clint asked, smugness weighing his words.

“My father often speaks out of turn.”

Clint gasped. “It’s true. You love me!”

“Not for much longer, if you don’t shut up.”

“Kiss me and I’ll shut up.”

As Natasha pushed herself along the corridor toward the ladder that’d take her towards the Tesseract, Steve came down toward her on his way to the bridge.

“You done?”

“Yeah, spoke to my father about five minutes ago. He’s worried I won’t get home, but I’ve promised him I will.”

“You tell him about what’ll happen if we don’t intercept-”

“The truth is a matter of circumstance. It’s not all things to all people.”

“Tough way to live,” Steve said, voice soft.

“Good way not to hurt my father though.”

“You know why we made the deci-”

“I don’t want to talk about it.” Natasha’s expression was hard, her lips pressed into a thin line as she stared back.

“You won’t have enough-”

“Not talking about it, Rogers. Because it isn’t going to happen. We’re not going to fail. We’re not going to run out of food. You and the rest of the crew are not going to commit suicide so that I might survive. And I’m definitely not going to be eating you to ensure I get home.”

“You know that if this-”

“It isn’t going to happen. We’re not talking about this anymore. Do you understand?”

“Yes ma’am.”

“You came back.”

“So it seems.” Loki was once more dressed head to toe in black, his suit no doubt criminally
expensive, his tie raw silk, shimmering faintly under the yellow-tinged fluorescent lights at JPL.

“Since you’re here, we should talk.”

“I disagree.” Loki shook his head. “Open communication was never our family’s forte.”

Thor snorted. “You have no idea. Yet, you are here. You came to—” Before he could finish his sentence, Loki let out a barking laugh and grinned to bear his teeth.

“To tell you that Odin forced us together. Mother has passed. Father is in the home. I came to ask you why maintain the pretence?”

“You’d rather we were strangers?”

“Are we not already?”

“I thought you didn’t want to talk about it.”

“Here’s the thing: I’m better off back in Norway, running the company.”

“Exactly what I was thinking.”

“Because—” Loki pulled up short. He’d obviously been preparing for a longer battle for the family empire. “Did you just agree with me?” In their entire history, Loki couldn’t remember a time that had occurred.

“The business world would appear to be where you belong. It’s savage, practically lawless and relies on back-stabbing. You love it.”

Loki’s face crinkled up and he pursed his lips. Thor could almost read the expletives and threats against his brother’s person forming in the man’s head. He waited for them. But all he got was,

“Do you truly think so little of me?”

Thor looked upon Loki, his gaze softening.

“Loki. Brother. I have always thought the world of you. I thought it would be the two of us, fighting side by side forever. However, at the end of the day, you are who you are and I am who I am. Maybe there is good in you, as I have always believed, but let us face the reality of the situation—our paths, our lives, diverged many years ago.”

Loki nodded ruefully, looking oddly saddened at the thought.

“Yeah,” he breathed. “Probably for the best that I go home, and you return to America should you survive this.”

“And we’ll never see each other again. Just what you’ve always wanted.”

While Thor truly believed his words, that the brother he’d loved, still loved—as much as Loki allowed anyone to do such a thing—would be happiest without his presence, Loki looked… devastated at the thought.

“It’s nothing personal,” Loki muttered eventually, but he wouldn’t look at the camera.

“It’s bullshit.” It felt intensely satisfying, both to swear and to watch his brother’s reaction.
“I beg your pardon?”

“You’re becoming predictable, dear brother.” Thor laughed. This was familiar ground. He knew how to navigate this. "I reach out, you lash out. Around and around we go and get nowhere.”

“Your point?”

“Life is about growth.”

“Oh God,” Loki cringed, “you’ve been in America too long. You sound like a Hallmark card.”

“Life is about growth,” Thor repeated. “It’s about change. You cannot stay the same. You’ll always be sly, and brilliant, and the most mischievous being Norway ever saw, but you could be so much more.”

“I take it back. You sound like a Hallmark movie.”

“Been watching many, brother?”

To anyone unfamiliar with Loki’s non-expressions, it would appear as though the man gave nothing away, but to Thor, who had devoted a near-lifetime to attempting to decode and understand the enigma that was his brother, the faint twitch of the pale man’s eyebrow, or the narrowing of his eyes, the flare of nostrils spoke volumes. Looking at his brother now, if Thor had been a betting man he’d have put good money that the only channel that Loki had been watching since his arrival in Texas was Hallmark.

He stowed the information away for a rainy day.

“Father’s madness has truly rubbed off on you, hasn’t it?” Loki sneered, but it was too late, Thor saw through it all. The best time to get anything close to the truth from Loki, was to unsettle him first, distract him and then try to figure out where the kernel of truth lay in all the misdirection Loki exhausted people with.

“How long was the flight?”

“Pardon?”

“From home. How long was the flight?”

“What does that matter?” Loki asked, looking around the room he was in as though it might provide him with the answers as to his brother’s conversational switcheroo.

“It is what, 5000 miles, roughly?” Thor sipped his coffee as he thought it through. “Assuming an average of 500 miles an hour flight speed, adding in another 30 minutes for take-off, best guess, about 10.5 hours.”

“Again, what does that matter?”

“You wish me to believe that you truly flew 10.5 hours for someone you never wish to see again?”

“I was in the company jet.” Before departing Norway, Thor had rarely used the customised Boeing 747-V.I.P that Odin had purchased for the executives of Asgard. He had been raised with a sort of wealth that was obscene, and had wanted for nothing, yet even he had found the opulence of the jet to be beyond excessive. Between the million dollar oil paintings that hung within the cabin, the four person sauna on the lower deck, and the two-car berth in the cargo bay, Loki’s comfort would have
been assured.

And yet, he had made the journey. Had he truly meant what he had said about never wishing to see his brother again, truly wished him death, Loki would never have left his equally palatial office at Asgard’s Oslo headquarters.

“You came to see me. You wanted to see me.”

“To say goodbye.”

“You did that already,” Thor fought the smile that threatened to split his cheeks. “Yet you came back.”

“I don’t know why.”

“Because you care.”

“Shut up.” Despite his words, a smile – a real one – graced Loki’s face. Thor knew it was impossible, that his brother’s adoption made it impossible, but when he truly smiled, he so resembled their mother that it was almost breath-taking, and caused Thor’s heart to clench with a wave of missing Frigga, her death still fresh in his heart, even years later.

“You cannot fool me. You’re not all bad, Brother.”

“Perhaps not,” Loki conceded, the closest Thor suspected he’d ever get to any agreement that he cared, let alone any actual outright affection.

“In fact, if you were here, I might even hug you.”

“You want to try it, you have to survive your fool’s errand.”

Thor grinned. “I’ll see you in 533 days.”

“Perhaps, but then I cannot see into the future. I’m not a witch.”

“Really,” Thor chortled, “then why do you dress like one?”

The connection ended, and this time, when Thor sat back in his chair, it was with a wide grin. It figured that the best communication he managed with his brother in several decades was when they literally weren’t on the same planet.

Still, it was progress. Small, but noticeable.

“He’s still a douche,” came Clint’s voice from the hallway as he passed.

Thor supposed that was an upgrade from ‘asshole’. He also didn’t entirely disagree.

The launch was perfect, Kimoyo Prime’s con-trail drifting in its wake as it fired up towards Valkyrie,
the mood in the Control Room remaining calm and happy as the team reported in on the various systems, Nakia translating as fast as she could, Shuri darting from station to station, the ultimate micro-manager when it came to her creations.

“Perfect,” Rhodey whispered, watching as *Kimoyo Prime* left visual.

“Of course,” answered N’Gassi, who had joined them for the launch. “We take great pride in our work.”

“We owe you a great debt for this.”

“Indeed.” N’Gassi leant over the railing that separated the two halves of the control room, and gestured towards where Zuri and Stark stood. “Insane as he might be, Stark is at least a consummate genius. I have endeavoured to remember that often through our days of working together as I ask myself whatever possessed me to support such an alliance.” N’Gassi seemed distracted.

“Everything okay?”

“I spent many years of my life overseeing the work upon the mission that the *Kimoyo Prime* was to be used for. Many of those down there,” he nodded to the Control Room, “worked for many years. Our project was not an easy one, it involved much politics and hard work to ensure we received what we needed. It was beautiful. Some of the princess’s most innovative work. Now it is a large paperweight.”

“You can’t send it later?”

“Perhaps. It was the work of many years to unite the eighteen clans that contributed to the project. There are some that disagreed with His Highness’ decision. They may not wish to continue with the project.”

N’Gassi’s sadness was palpable. He was an advisor to the King in part because of his considerable intelligence, and the *Kimoyo Prime* project had been his brainchild, the culmination of years of research and political wrangling. To watch the project be shelved, perhaps permanently, was a feeling Rhodey was all too familiar with.

It was not an easy one to bear.

“If it helps, you’ve made a considerable mark on the life of James Buchanan Barnes. You may well have saved a life here today.”

“Yes.” N’Gassi fell silent.

“And perhaps started a greater dialogue between our two countries. That is a legacy to be proud of.”

“Distance is 61m with a velocity of 2.3 metres a second,” Natasha advised.

“I got it,” Sam never looked away from his screens. One showed the static image of Valkyrie’s docking port and the other showed a constantly updating projected path for the probe.

Behind them, silent yet oppressively present, was Rogers.

“We have acquired visual of the probe,” Thor’s voice came over the radio from down in the docking
port where he was helping Barton get ready in case he was needed to play fetch.

“Barton ready?” Natasha asked.

“You doubt me?” Clint asked.

“In this, or in general?”

“The good doctor is prepared. As am I.” Though Thor was primarily in the airlock to aid Barton in whatever he should need, if necessary he could join the doctor in retrieving the probe – or rescue the EVA specialist if it came to that, though nobody wanted to raise that as an issue – and was decked out in his own EVA suit, minus the helmet.

“Bring it in, Sam,” Rogers ordered.

“What would I do without you to give me orders? How would I have known to capture the probe?”

“43 metres with 2.3m/s velocity.”

“Come to papa,” Sam mumbled as he watched his screens.

“Getting a rotation on the probe.”

“Less than 0.3?” Sam asked.

“Yes,” Natasha confirmed.

“Then we’re good.”

“Probe in range for manual recovery.” Barton’s voice had that tinny quality that meant he’d pulled on his helmet, meaning he’d strode into the airlock to be prepared.

“Copy that, Barton. Stay put,” Rogers ordered.

“22m to lock, velocity stable at 2.3m/s,” reported Romanoff.

“Let’s slow her down a little,” Wilson said, manipulating the controls that gave him access to the probe’s navigation systems.

“1.8…1.2…0.9…0.9…stable at 0.9 m/s.”

“Distance?”

“12 metres.”

“Angle?”

“Angle is good.”

“Rotation?”

“Stable at 0.1.”

“Come on, come on, come on,” Wilson muttered, barely blinking as he studied the screens in front of him. “Come to daddy.”

“Does he know that’s creepy?” Barton whispered over the comms.
“He does, and he doesn’t care,” Wilson answered. “We’re looking good for auto-capture.”

As though nothing more than a piece of driftwood, the probe gently cosied up to the docking port, the capture boom entering the port’s funnel as it came in ever so slightly off-centre. The port drew the boom in, re-aligning the probe to ensure perfect orientation, and when it was found, several loud clinks could be heard through the ship, just as the computer panels gave the readout that the docking had been a success.

“And that, ladies and gentlemen, is how we in the Air Force do it! Docking is fucking complete, and perfect!”

“Seal is tight.” Natasha continued, laughing at her friend’s little shimmy of glee at bringing in the probe, Sam squirming in his seat as he tried to dance in the limited area.

“Barton, come back in. We’re good.”

“Thank fuck for that, Commander!”

“Thor, you won’t need to go moonwalking.”

“Moonwalking? But we’re not on a-”

“I’ll explain it, buddy,” Clint answered, the clanging of their magnetic boots ringing loud over the comms as they left the airlock and re-entered Valkyrie proper.

“Houston, Wakanda – probe has been successfully captured and docking is complete. Will unload.”

“Roger that, Valkyrie. Once probe unloaded and supplies checked, report status.”

As the control room exploded into an excited chatter, Tony turned to the man beside him.

“I’m sure it was something like nice to have met you,” Tony offered a hand he knew wouldn’t be taken, glancing back at Rhodey as though to ensure he was witness to Tony playing nice.

For his part, Zuri merely grunted.

Tony decided to push his luck, because clearly nobody else was going to.

“If I were to hug you now, you know, in a manly fashion, could that be considered an act of war?”

“It would be considered an act of war.”

Tony did it anyway.

“Let’s go unload the groceries,” Rogers turned to the other two who were removing their headsets and making their way out from in front of their respective stations.

“So, who were you going to eat first?” Wilson asked as the floated up a ladder, yelping when
Natasha pinched the underside of his foot, protected by only the sock-like booties of Sam’s suit.

“Certainly not you!”

“Why not?!”

“You are what you eat, and I’ve seen what you eat.”

“Everyone on the ship has been eating the same thing I’ve been eating!”

“Yeah but back on Earth, have you seen all the organic, free-range stuff Thor eats?”

“You’d give up me for Thor?!” Sam was outraged at the very idea.

“You’re upset I’d not eat you?”

“Well,” he blustered. “When you put it like that. What about Barton?”

“Seems a good bet, corn fed Iowa boy, but he eats worse than you.”

“Are you two going to shut up and get out the way?” Rogers asked over their good-natured bickering.

"We got work to do!"
Camping

Chapter Summary

Now that Valkyrie is on her way back and the crew is coming for him, Bucky has a lot to do to get ready to leave New Brooklyn

Log Entry: Sol 376

At this point in Kurt’s graphic novel – ‘cause I’d be fuckin’ offended if he didn’t write one about me – I’d be looking real heroic, and sure, and brave. My long hair would be flowing majestically – yeah, I said it, fucking majestically – on the breeze as I stared into the distance with a determined look and a square jaw.

I got the hair.

I got the jaw.

Everything else…feeling none of it.

Sure, I’m real proud of how I am the King of rover modifications – 90% of which I did alone ‘cause I’m fucking awesome – and I’m all master of my fate and shit, but that don’t mean I ain’t shitting myself right now.

It’s taken a lot, and I mean a lot, of hard work to figure out how to maintain life support having made a fucking great hole in the pressurised portion of the trailer, and then even more physically demanding manual labour - and the appropriate amount of cursing - to carry out the necessary alterations, but it’s done.

No more drilling.

Do you know how many 750 holes is?

Doesn’t seem all that many to you guys, huh?

Here’s a fun thought; go outside, and dig 750 holes in the ground, with a yard stick you can only hold from the top. Stop every ten minutes, sit on your ass for five minutes and then start again.

For eight hours a day, wearing all the clothes you own so you’re the bastard kid of the Michelin Man and Stay Puft.

Until you’re done.

Don’t seem so easy now, does it, wise guy?

Once I peeled off the roof like a tin can, I filed down the edges to leave a smooth surface for me to be able to attach the only thing I’ve got that’ll work to add height over the rover for the Atmospheric Regulator to fit, and maintain pressure.

Specifically in this case canvas from one of my pop-tent mini-farms. It ain’t like either of ‘em are
doing anything now my farm is dead, and if the rover breaks down on the way to Schiaparelli, I’m 
fucked anyway, so I’m all about the make do and mend. Using sheers I removed the flooring – same 
as the interlocking rigid flooring of the Hab so that when it inflates you’re not a boy in a bubble – 
and that left me with the flexible canvas which was just the right size to fit the hole in the rover.

There are those that might say that cutting a big-ass hole in a pressurised vessel is a shitty idea, and to 
them I say, ‘no fucking shit!’.

I took my Cinderella canvas, and the same seal-strips that I fixed the Hab with when it blew up, and 
attached it to the inner edge of the trailer to make a nice soft-top for my convertible trailer. Guess it’s 
more of a pick-up truck bed with a tarp over the top now.

Fuck Project Pathfinder, this is the moment I become a hillbilly. Gimme a little longer up here, and 
what with the malnutrition and dire lack of toothpaste, enough teeth will fall out for me to be a 
Deliverance extra.

Banjo me up, baby.

Fuck, I could load up Sojourner as my lil doggie and the tableau would be complete.

I need to get off this planet, I’m going nuts.

With the canvas providing a ballooned area over the rover, the Atmospheric Regulator and 
Oxygenator can easily fit inside. But then I had to fuck around with the external component.

Remember how I said the Regulator pumped air outside the Hab to freeze it?

Well, that component is the ‘Atmospheric Regulator External Component’. Betcha someone sat in 
agonised thought for days over what to name that before that title sprang into their brain.

Well done, dude, well done.

What that means is, that the AR has luggage of its own. Not only did I have to make a goddamn 
luggage rack for the damn thing, but I had to figure out how to not fuck up all the hard work I did 
with making sure the canvas I’d just stuck into my rover was pressurised.

What am I talking about?

The AREC requires two tubes leading from inside to outside and back again to take air to it and back 
from it. In the Hab there’s tubes already set into the canvas as standard, but the tents don’t got that 
shit.

Who designs this shit?

Long story short, while most of that shit wasn’t exactly hard, it was time consuming and involved a 
lot of manual labour and my back still ain’t great, and since I’ve been moving around so much more 
rather than just tending my crops, I’m feelin’ the muscle loss so I’m taking it slow and gentle. I got 
the time so why push too hard? Better to take a little time off and heal up, than push and end up 
taking a week or more off. I got the time to take a few hours away from the job, I don’t have time to 
take a week off.

Even with all that I’ve done, NASA is still probably shitting itself that I won’t be done in time but 
I’ve done the maths myself, and I know when I gotta leave, and what needs doin’.

I’m okay for time.
And even when I *am* inside and taking it easy, my brain is always ticking over, always thinking, always considering amendments and changes and…

Why the fuck am I justifying myself to you?

I’m doin’ my work. I’m getting it done.

Back off.

“Before the break we were discussing the completion of the necessary modifications to the two rovers.” Christine spoke directly into the camera before turning to her guest. “I think my viewers would like to know how, if communications with Barnes have been lost, NASA feels safe in that assertion.”

Rhodey smiled tightly. He was one of the few Agency guests that still appeared on ‘The Barnes Report’. After the debacle with Stern and Stark, which had earned no less than six separate hashtags on social media – two or three of which still trended weekly – ‘The Barnes Report’ had become more stringent in regards to its guests.

As had Pepper.

While the #StarkschooledStern episode had over two million views on various streaming sites within forty-eight hours, and ratings had spiked for every episode since as many viewers tuned in in the hope of a repeat, the network’s parent company – and it’s board of director’s – had been unimpressed and the politics of the mission to save Barnes hadn’t been mentioned since.

Much, seemingly, to the chagrin of its host, who wasn’t particularly adept any longer at the more fluffy aspects of journalistic interviews, preferring the attack.

“Well, Christine, there are really two ways in which we’ve deduced that Barnes has completed the work. First, the photos from the satellites demonstrate that he’s moved on from working on the rovers, to driving around the Hab in them, with a new canvas bubble in Rover Two suggesting he’s testing the modifications.

“And the other?”

“As anyone can tell from the site photos, Barnes leaves us short messages in Morse code. His latest message was very simply, ‘completed’. That was really our first clue.”

Christine, eyes narrow as her nostrils flared in annoyance at Rhodey’s sarcastic tone, continued on.

“The modifications had not, at the time of Pathfinders loss, been fully transmitted to Barnes, meaning that much of the modification work was undertaken by Barnes unsupervised and without previous testing in safe conditions.”

Rhodey sighed; he knew where this was going.

“Yes,” he agreed. “But Barnes is a mechanical engineer. He knew from the schematics we had already transmitted the direction in which we were intending to go with the necessary changes. Don’t forget, Barnes is an incredibly resourceful man, and he survived for months alone.”
“But aren’t the modifications dangerous?”

And there it was, the weekly ‘is Barnes going to die?’ ratings grab.

“The whole mission is dangerous, but from what we can see of the work that Barnes has done is very much in line with how we would have instructed him to proceed, and that ensures he is as safe as possible.”

“‘As possible,’” Christine echoed, “is not the same as safe, now is it, Doctor Rhodes?”

“The same could be said of anyone on Earth that drives a car. Putting on your seatbelt and adhering to the rules of the road ensures that you are as safe as possible, but that doesn’t mean that you can’t be hurt in an accident. But it is the best option to protect yourself. In this case, the modifications for Barnes to get to Schiaparelli is Barnes’ best, safest option.”

“And if the modifications do fail?”

“That is likely what Barnes is testing for when he is driving the rovers around. This isn’t his first rodeo – he did fetch Pathfinder completely alone, after all. He’ll have triple-checked his work at every stage, and likely left the rover fully pressurised for several days to check the hold of the canvas balloon while he wasn’t in it.”

Christine looked disappointed to hear that Bucky wasn’t in immediate danger from himself. She turned away from Rhodey to face the camera.

“Join us after the break when I meet James Barnes’ childhood friend and penpal, the New York Times Bestselling author, Kurt Wagner.”

Log Entry: Sol 380

Like I said, I’ve been thinkin’. And working away while I’m inside.

What’ve I been working so hard on?

The RTG reservoir.

That I got to use my experiments with how I can best take advantage of the heat the RTG gives out to heat baths is entirely incidental.

Fittingly, I had my eureka moment mid-way through a particularly welcome soak.

Originally I glued tubes to the outer casing of the RTG and ran water through it, heating it and then running the returning air from the AREC through that hot water.

A good idea.

But I got a better one.

Submerge the RTG entirely. That way I don’t waste any of the heat at all.

I started how I seem to start everything these days – with a box. I ran a tube around the open top, down the inside wall and into a coil at the bottom, increasing the length of tube that will be in the hot
water, which will expose more air in the tube to the heat of the water.

Once I was satisfied with the placement, I sealed it all in place, and with a tiny drill bit, returned to my drilling ways and made dozens of holes in the tubing, which thankfully took way less fuckin’ time than the rover and my drill is way nicer than Rogers.

That’s what she said.

The pressure from the AREC will keep the water in the reservoir from being able to enter the tubing, and air will be forced through the water as it rises to the surface, bubbling out into the rover as life-supporting air.

That won’t freeze my ass.

But I can’t just throw the RTG into the water like a lucky penny.

It’s gotta be in something to protect it from being used for something it’s not designed for.

That was way more fucking frustrating than anything else.

You ever tried sealing something that’s oddly shaped into a Ziploc bag and got all the air out?

Why do I gotta get the air out?

The RTG is hot. Really freakin’ hot. It heats the air around it. Plastic melts. Any air inside the Ziploc bag would super-heat quickly and melt the bag, leaving the RTG in the water unprotected.

No matter how I wrestled that fucking bag, there was always still air in it.

Hello Airlock 3.

I couldn’t get all the air out of the bag, but vacuum could. It only took a minute to get a perfect seal on the bag. Which was way less time than it took me to wrestle into my suit and back out again, all to seal a freaking bag.

With the components for the reservoir complete, it was time to put the two together and see how well they functioned. I filled the box and plopped the RTG into one corner and measured the temperature of the water, ready at any second to yank the RTG back out and abort.

No need.

It worked perfectly, taking a little over half an hour for the water to get to 40°C and when it did, I hooked it up to the Atmospheric Regulator’s return air-line and finished the test.

Just as science promised me would happen, air bubbled through the hot water and warm air filled the air around the reservoir.

Fuck yeah!

Success. I ain’t gonna freeze on the way to Schiaparelli!

Nor will I suffocate which, you know, fucking awesome.
Log Entry: Sol 381

Sometimes I like to think about things that ain’t getting to Schiaparelli.

Or about how my crew is doing.

Or about what I’m gonna say to Steve when I can. Even if I can’t get to intercept with Valkyrie, I’m gonna have a radio. I’ll be able to talk to him.

You know that in over a year I’ve not heard a real person’s voice that ain’t my own? TV and movies don’t count.

I ain’t seen another person in over a year.

But when I get to the MAV, I’m going to be able to speak to Valkyrie. No more emails, no more messages.

Actual speech.

Do you know what that feels like?

To know that in a little over, what, four months? A little over four months I’m gonna hear Steve’s voice because Valkyrie is gonna get close enough for it.

God…

I’m gonna actually talk to my crew. Whether this works or not, whether I survive this or not, I’m going to be able to talk to someone before I die…

I go down that rabbit hole, I ain’t coming out for a while so, I’m gonna tell you about the stupid stuff I’ve been thinkin’.

It, like everything else in my life, revolves around the MAV.

But it ain’t my MAV.

Why is that important?

No one country of Earth can lay claim to anything that ain’t on Earth. The US can’t claim the Moon, Russia can’t claim Mars, China can’t claim Venus…blah blah you get the idea.

It’s a treaty to try and keep the peace. ‘Cos given the opportunity you know wars would break out over it, even if nobody could live on it (but me) or colonize it (but me) or mine it for useful shit (but me).

One man army, that’s me!

Another treaty states that if you’re not in a country’s territory, you’re under maritime law.

I.E. international waters.

Nobody owns Mars - apart from me, ‘cos fuck it, I’m claiming whatever the fuck the opposite of eminent domain is. Who’s gonna stop me? – so every time I strut outside the Hab, which is US territory – sorta like an embassy in a foreign country I guess – I’m swanning about lawless. The rovers, and any space going craft made by the US are also under American law.
American Outlaw.

While the plan has long been to get to the MAV in Schiaparelli, nobody actually ever told me I was cool to commandeer it. So I’ll be breaking and entering. After I get into the MAV and fire up the Comms systems, I can get permission to enter the MAV.

Too fuckin’ late.

So, I’ll be carrying out Grand Theft MAV.

On American property.

I have reached a new level of cool.

A new level of awesome.

For I, James Buchanan Barnes, will be a Space Pirate.

Dread Pirate Barnes reporting for pillaging duty!

Log Entry: Sol 383

You know what else I do when I’m thinking, apart from wondering how good I’d look dressed as Dread Pirate Barnes for Halloween?

Huh, wonder if anyone would ever go to a Halloween party dressed as me? EVA suit might be hard, but I guess you can rent shit like that, and if you’re handy with a sewing machine, it can be done. You oughta see some of the masterpieces my ma whipped up for me and Becca.

Oh fuck, you probably have. If my ma opened up a single photo album for journalists…well, I won’t do nothing, because it’s Ma but I’ll never live the year I was a minion down. Look, they were really big at the time, okay? It’s not my fault. Becca looked ridiculously cute as Agnes though, complete with unicorn stuffed toy. Ma dressed as Margo and dad as Gru because we took Halloween seriously in our family.

How fucking cool would it be if kids trick or treated as Ares 3 crew? Weird as fuck, but cool. Open the door and see little kids dressed like you. Go to an adults party and have people dressed as your crew. Probably some asshat who dressed as me, complete with antennae sticking out of me, ‘cos some dipshit has to think they’re funny.

Holy shit, I’m never gonna need to buy candy ever again. Never buy another beer, never buy another Butterfinger…if I survive this shitfest, I have got it made.

In order to see all that, I gotta get home. To get home, I gotta take my Mad Max convoy to Schiaparelli.

To get to Schiaparelli I gotta get some maps.

Hey, my ma raised me as a thoroughly modern man so I ain’t got a problem with stopping and asking directions, but with Pathfinder down, I got no way of asking NASA for help and like I said
before, Mars isn’t exactly signposted.

So I plan my trip.

3,200km from Hab to MAV.

Without detailed maps.

Why would we have them? We were gonna be limited to 10km around the Hab. Images for a place almost round the other side of the planet would be pointless.

But I do got some rough satellite images that were sent before *Pathfinder* died and they aren’t what I’d call uplifting.

Acidalia Planitia is as close to Kansas as it get’s up here. What’s part way between Kansas and Colorado, hill wise? It ain’t as flat as *some* were predicting before my ass got left up here. I took real delight in informing the rock boys down there just how wrong they got *that* shit, but in comparison to what it could be, there’s a decent enough span of 650 km where I’m not up against any major fissures or Everests.

But like everything in my life, the good shit dies quick.

Between me and the MAV are extreme changes of elevation, serious boulders just dying to rip apart my undercarriage, craters tens of km wide, and Arabia Terra.

Sure it ends in an ‘a’, but I basically refer to is as Terror. Thankfully, running through it is Mawrth Vallis. And yeah, I refer to it as Mothra, but that's 'cos Clint's got about ten versions of Godzilla on his drive. Mothra was created when it was a channel that drained the water that used to flow down from the highlands of Arabia Terra. It’s way nicer terrain than the rest of Terror and will afford me 700km of smoother driving, and it leads almost directly toward Schiaparelli, guiding me right to it.

The other 1850km of driving however?

Really, *really* shitty.

It’s gonna be slow, it’s gonna be tough and it’s gonna be a pain in my ass without a map.

Pain in my balls too, given how uncomfortable the last few km were when the terrain got rough when I picked up *Pathfinder*. The suspension on the rovers is good, but it ain’t that good that this is gonna be a pain-free ride.

Maybe if I sit on a pillow…

*Bucky escaped the helo dunker for the third time, spluttering as he broke the surface, eyes squeezed tightly shut even though the blacked out goggles he’d been instructed to wear on his final ride blocked out not only all light, but the water too. The helo dunker was disorientating enough on the first two goes, but when Phillips had handed him the goggles with every sign of enjoyment at his impending doom, Bucky’s heart had sunk.*

*He’d been dreading this phase of the training.*

*Learning to pilot craft himself had been one thing. He was a fast learner, a trait he’d ruthlessly*
taken advantage of throughout his life, relying on his incredible ability to absorb knowledge as well as an innate physical aptitude to master new tasks at an enviable speed. He’d been proud of not throwing up after the first joy-ride in the T-38 trainer he was expected to master, even after his pilot had fucked around with barrel rolls aplenty and then a 2G climb and roll when turning the cockpit into a washing machine didn’t garner the wanted result of AsCan chunks.

But this…

This was evil.

Bucky had watched with a number of the other AsCans from the side of the tank as, on her second pass, Cho, disorientated by how the helo fuselage was flipped after it hit the water, began swimming down, deeper into the tank rather than towards the surface before she began to run out of air and panicked. Wade, one of the four trainers stationed in the tank in full scuba gear, had come to her aid, forcing a regulator into her mouth and clearing it for her when she fought him. He brought her to the surface and towed her to the side, handing her off to his colleagues there. Sam had replaced Helen in the dunker until she had regained her composure and insisted on trying again, this time acing the task, even the third pass with the blindfold.

Sam, Carol, and Rumlow had, predictably, aced the training, having been through it more than a few times in their respective careers.

Then it had been Bucky’s turn.

As much as he’d thought he was prepared after having watched four of his fellows go through it, he’d been woefully wrong.

What had seemed like a slow descent when he’d been watching had felt like a 100mph freefall when he was strapped into the fuselage, the water bubbling around his feet within a heartbeat of the splashdown, shockingly cold. By the time he’d taken the last gasp as instructed, it was up around his hips, and then his whole world had spun and his head was under water.

He hadn’t anticipated how everything would get in the way of undoing his belt, his clothing rippling in the faint current created by the fuselage moving, and he’d fought to get a good grip on first the belt-release, and then the tab on the window, his mind desperately trying to remember if the model he’d been told the helo was based on had windows that pushed out or pulled in. It had felt like a year before the window had finally given way, falling out to the bottom of the tank as he pushed himself through the opening, keeping one hand on the side of the fuselage to guide his way and give him leverage to pull his knees up and press his feet flat against the side, pushing himself to the surface.

He’d broken the water to the applause of his fellow trainees, and given them a good bow from the side of the tank as he hauled himself back to the stationing point, Sam’s wolf-whistles largely drowned out by the thunderous sound of the water draining from the fuselage as it was pulled back out of the tank.

The second time had gone easier, Bucky knowing both what to expect and how best to achieve what he needed, how hard the window needed to be shoved, and exactly when to take his last inhale.

But then came the third and final pass, the one with the blindfold. He could only hope he passed because he never wanted to get in the damn dunker again.

He also never wanted to see a blindfold again, which could possibly put a crimp in his sex life. Not that he had one at the moment, he lamented as he reached the edge of the tank and flopped onto his
belly to haul his legs out, his shoes heavy with water and the adrenaline passing leaving him exhausted. He wanted a hot shower and some dry clothes.

“How’d it go?”

Then again, a shower could wait…

Steve was…glorious.

All the AsCans had been instructed to report to the tank fully dressed in long pants, belt, shirt, sweater and heavy boots. While Steve’s sweater was currently MIA, he’d thrown his leather biker jacket on to stave off the chill of the large NBL facility.

The leather jacket that might star in one or twenty of Bucky’s filthiest fantasies. The botanist was starting to worry that the smell of the leather polish that Steve religiously used on the jacket was now enough to get him hard, like some sort of perverted Pavlovian response. Not worry enough to actually do anything about it, but worry nonetheless.

The tight grey shirt the Captain was wearing beneath the jacket was rapidly climbing the ranks of Bucky’s favourite clothes of Steve’s. Which was essentially, everything the blond man had ever worn in Bucky’s presence. He hadn’t seen the soldier in his dress uniform since the day they’d met, not in reality anyway, but Steve in casual clothes, with his hair ruffled and spiky, the man obviously not having bothered styling it considering the task before them all, was nearly equally devastating.

“How?”

“The helo, how’d it go?”

“Didn’t need rescuing, or pass out and Phillips isn’t reading me the riot act so I’m taking it as a win.” Bucky looked down at himself. “Wet as fuck though.”

Bucky reached down to pinch his red shirt away from his skin, and tried to flap some of the water out, succeeding only in introducing frigid air to his skin, someone having decided to leave the external doors open. He felt the goosebumps prickle over his skin and only just suppressed a shudder. If Steve thought he was cold, he’d dispatch him off to the locker room and that’d just be a damned shame.

Looking up, Bucky caught how Steve’s gaze had dropped to his chest, and when Bucky glanced down too, his nipples, in response to either the cold or Steve in that jacket, were pushing against the water-heavy shirt, the fabric moulding to his stomach and hips. While his jeans were dark, and hid a lot, his shirt was light enough to show off his goods where the shirt pressed against his groin, which thankfully had laughed in the face of shrinkage.

Steve didn’t seem to be complaining if the way his jaw had gone slack was any indication, the pink of his tongue pressing against his front teeth before slicking out to wet his lips. At his sides, Steve’s hands clenched and released, clenched and released, as Steve’s body swayed towards Bucky.

Bucky would have given anything to catch the scent of Steve’s shampoo or the spice of his soap over the chlorine of the water. To be close enough to admire the green flecks that rimmed the edges of Steve’s pupils, the most perfect of flaws. If he just let himself rock forwards…

It would be so easy. So easy to just plaster himself along Steve’s front, to soak Steve’s shirt to his perfect abs, to tease that tongue into Bucky’s mouth, to be enveloped by the scent of leather and spice.
The clang of the helo dunker releasing into the water with a new victim pulled both men from their reverie, Bucky becoming acutely aware of the cold water dripping from his hair and down the nape of his neck, the squish of his boots beneath his feet as he caught himself rocking forwards onto his toes.

Shit.

Steve blinked rapidly before glancing to where Jane was successfully surfacing, alone, her face split in a wide grin as she paddled towards the edge. Bucky’s attention was pulled to where the other AsCans were sat with Phillips, all applauding the doctor’s achievement, their attention mercifully focused on the tank.

Everyone except, that was, for Sam.

The pilot’s too-intelligent eyes were firmly on where Steve and Bucky were trying their damndest not to look like teenagers caught making out on the couch by both sets of parents. Once Bucky’s eyes locked with his, the asshole winked and threw him a thumbs up.

Bucky flipped him off before Steve turned back to him.

“Uh, yeah. It was okay.”

Log Entry: Sol 385

Y’know what’s real effective at pushing cruel and distracting dreams out of your mind?

Work.

Actually, that’s a fuckin’ lie, but it ain’t like I got any choice. Stupid brain associating the shit of helo dunking with the shit of the landscape I gotta navigate. Don’t even care that it tried to soften that blow with memories of Steve’s Rebel with a Cause look.

And it’s a good look.

But I’m gettin’ off track.

Again.

Work alone ain’t gonna push aside last night’s dream, but work that could result in my death? Y’all know that’s where I shine.

As I bitched for pretty much the entire trip to Pathfinder the rover ain’t comfortable for long term inhabitation.

They aren’t designed for it.

After 22 days, I wanted to rip my hair out and was popping vicodin like skittles to combat the agony my back was in after days in the cramped conditions.

Even once I get to the MAV I ain’t gonna exactly get to move out. Once I’m there I’ve got forty odd days of MAV mods to carry out and no Hab to stretch out in. Which means 100 days of living, and likely working, in the rover.
I’m gonna go fuckin’ nuts.

I gotta make myself more room.

And I don’t mean ripping the roof off R2D2.

I’m gonna make myself a bedroom.

How?

Remember the pop-tents?

It’s what they’re designed for.

Sorta

One of them doesn’t exist anymore, but its friend is in perfect condition, and the perfect candidate; it’s originally from the rover so it connects perfectly to the airlocks.

Problem is, once it’s attached to the airlock, I can’t get out of the rover should I need to. I’d have to get into the rover, deflate the tent, bring it in, and then get out the airlock.

Not speedy.

To that end, I’ve decided to attach it to the Funvee and not R2D2. I’ve ripped out all the control panels in the trailer, so if something is going wrong with the Life Support Duo or I wanna check on functioning of the battery charging, I can just go straight from the tent to the Funvee without having to go through the whole debacle of deflating the tent.

But the tents aren’t that big. Sure, they’re designed to hold a few people, but not to stand up and move around. They’re designed for people who might be lying down or sitting due to injury. They’re designed to keep you alive long enough to allow your crewmates to rescue you, not keep you comfortable while doin’ it.

You know what that means.

More arts and crafts.

My fashion empire is expanding into home furnishings.

If I can double the height and floor area of the tent I should be pretty comfortable.

I have the flooring from the other pop-tent, but no extra canvas for the body of the tent.

I had to use a lot of the spare Hab canvas to fix the fuckin’ great hole that Airlock 1 left in the side of New Brooklyn.

So I’m gonna have to use actual Hab canvas.

This is gonna take a fuck load of resin.

Log Entry: Sol 387
I didn’t do Home Ec. Or family studies or whatever shit it’s called now. My ma tried to teach me to sew once. I broke her sewing machine.

It’s actually what started me in engineering, trying to fix it for her.

I made it worse. I was eight though, so ease up on laughing at me.

She never tried again. My ma is a saint but even she’s only got so much patience.

Took my dad a week of swearing – see where I get it from – to fix the shit I did to that poor machine.

Sorry, Pop.

I’m tellin’ you this to explain that despite this being pretty simple on paper, when it comes down to the fact I need this to work to keep me alive, and I’m gonna be compromising my Hab and a potentially life-saving tent with my less than stellar abilities.

I need to strip the Hab of 30m of its canvas.

*Thirty metres.*

Forget ‘measure twice, cut once’. I measured and checked my work over five times before I even *thought* about depressurizing the Hab to get the canvas I need. I drew on the walls to make a sort of pattern like my ma used to when she made dresses.

Of course she used newspaper and I’m using multi-million dollar NASA created Hab canvas, but potato, poh-tat-o.

The Hab is a dome, and I’m gonna take the canvas I need from down near the bottom, on the opposite side to Airlock-Armageddon, down where it reaches the floor, seal-strip and glue the fuck out of the join, and then re-pressurize.

That can’t go wrong, right?

Using the pattern I’d made higher up on the curve of the dome, I traced out the shapes of canvas I need.

Then I triple checked that.

Then I stuck together all the old cards I used when *Pathfinder* was first transmitting, the ones I used to write my questions onto, and taped ‘em into the right shape I wanted and tested it out as a model.

It worked.

I didn’t push it today, besides, it’s late and I wanna eat and go to bed, not work through the night in the dark. Besides, I wanna warn the nervous nellies on the ground. Fuck know what they’ll think, if they get a bunch of pictures with the Hab deflated again.

They’d be dropping like flies!

So, that’s tomorrow…

Tomorrow I deflate the thing that keeps me alive.

Tomorrow I cut into and hack chunks out of the thing that keeps me alive.
Tomorrow I try and seal it all back together.

Tomorrow…

But for now, food.

I’ve been eating potatoes for weeks, and if I get home, I’m never eating one again.

I love potatoes. I really do. Chips, fries, mashed, boiled, double-baked with cheese…

Microwaved on the face of Mars with no butter, no salt and no cheese?

I’m getting to the point where I have to force myself to swallow the things.

I have enough to get me to Valkyrie. Or at least to the day I hope to get to Valkyrie, and they’re keeping me alive, and I know that had Barnes Farm not been destroyed, I’d be eating them even fuckin’ longer than I have been but damn…

I’ve saved a small number of food packs I’ve been holding back on eating.

They’re celebratory meals, one for each special occasion I think I’m gonna encounter between leaving the Hab and the day I leave.

Five meals.

Departure, for the morning I leave the Hab.

Halfway, for when I get halfway to the MAV. Obviously.

Arrival, for when I get there.

Then I mixed it up a little, and departed from the blatantly obvious titles.

Survived Something That I Shouldn’t Have Because I’m a Martian Cockroach, is for when – and I know it’s a when and not and if – something goes to shit and Mars tries to kill me. Maybe I’ll run into other Space Pirates that want the MAV, maybe the rovers will break down, maybe the stench of ammonia in the rover after a few days will almost kill me. I dunno, but I got the meal for when I (hopefully) survive it.

I had to write that one real small too. Snappy titles, not my thing.

Last meal.

Well, that one is either for just before I leave, or if it goes to shit, it’ll be what I eat as Valkyrie flies by without me.

Whatd’ya know, maybe I can do a snappy title.

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Log Entry: Sol 388

Almost everything, apart the fuckin’ obvious, survived decompression last time – a couple of the
laptops that weren’t in the rover didn’t get through it and a few pieces of medical bay kit and a bunch of other not overly critical bits and pieces didn’t, but most stuff was okay.

But I did lose some important stuff.

300L of water for a start.

I’m decompressing the Hab, but this time it’s planned and I can make sure I don’t lose shit again. I started by draining the Water Reclaimer so water can’t freeze in the tubing again, and sealed up all the water tanks so I won’t lose anything from those.

As this is a really big day and I can't afford to fuck up, I have allotted myself two caffeine pills for today, one with my breakfast potatoes and one with lunch.

I need to be alert but have steady hands.

Anything that needed pressure got thrown —actually, delicately placed - into Airlock 3, including the Sharpie I used to draw my pattern, so I might have checked that over for a fourth time right before sealing it in with the laptops, medical kit etc.

Really hope I don't royally fuck shit up and need something from in the airlock ’cos if ain't exactly handy to get to.

Once I couldn't justify wastin’ any more time on just one more scan of the battened down Hab, I commenced controlled shut down.

Basically it's a version what would have happened on Sol 31 before we left the place for good.

The critical systems like the life support and computer systems are all designed to survive vacuum with little to no problems. It's another of the just-in-case backups that NASA insisted on. Space travel is dangerous and while the Hab is pretty solid as Airlock 1 proved, it isn't impregnable and things go wrong. Any number of them might lead to decompression. The astronauts stuck up here were gonna need those main systems when - if - they were able to fix the problem and return to regular running.

I'd already shut down and drained the Water Reclaimer last night, so I could skip that, and moved on to the Oxygenator, Atmospheric Regulator, and last the computer system itself.

When the Hab fired Airlock 1 out like a watermelon pip, the decompression happened in seconds. Less than. That force was enough to blow down the flexible rods that hold up the dome, easy as a wolf confronted by a straw door.

That left everything practically drowning in canvas, but this time, with the decompression slower and controlled by yours truly, the canvas collapsed gently down onto the poles like a deflating balloon.

Good start.

I don't wanna be accidentally cutting a bit of canvas that's got caught up with the bit I do want.

Once I confirmed, via Airlock 2 that decompression was complete, there was nothing left for it.

Time to fuck this shit up!

I wish my ma were here.

Actually, if I’m wishing for shit, I want to be with her.
Thank fuck this don't need to be elegant or even pretty. It's just got to hold.

It ain't complicated either; no right angles, or corners or shit like that.

I'm not an architect, I'm a stick-shit-together-er.

All that boils down to, is that nothing complicated needed cutting. Just two huge panels. One will provide the sides of my bedroom and the other will be the roof.

For such a momentous occasion it didn't take very long. My sheers are sharp and my hands steady.

Soon as the last cut was made, I pushed the cut sections away from me - again, don't wanna accidentally cut 'em - and hauled the two edges of the wound closed, sealing it with more seal-strips. Thank fuck they're light and so NASA sent a metric tonne of ’em up with us.

It wasn’t pretty, and my ma’d be horrified to see it, but it was done.

Another challenge for ya, in case I'm making all this sound easy.

Find a tent. Borrow one for all I care.

Unfold it all.

Dress in twenty layers of clothes, and at least five pairs of gloves.

Now, crawl under the canvas and set up the tent from inside.

Now, take down a couple of the tent poles and, still inside the tent, cut out a portion, and glue the two new edges together.

Enjoy!

When I was through, it was pretty obvious why I never sought a career as a tailor.

It was rough, dirty, and like the worst sort of weal or surgical scar.

But all I need it to do is hold.

Which of course it didn't.

But I'd not expected it to, first go.

I'm trying to be optimistic, not get a lobotomy.

But even at only 1/20th of pressure, New Brooklyn was a sieve.

So, I did a version of what I did with the smoke in the airlock. Only now I can leave so I didn't need fire.

For fucking once.

Nope, just needed an EVA.

The top layer of what passes for dirt on Mars is like baby powder. Superfine and light. Blow it into the air near the non-sealed seal, and follow it back to the hole.

I remember the days when EVAs were thrilling, new and exciting. Heart would race, breathing
speed up and be crawling out of my skin to get out the airlock.

Now they're every day to me. I barely even think about the dangers anymore.

I grabbed a couple plastic bags, and once on the surface I scrapped some of the dust into each bag.

Thrilling, right?

Know what's even more heart-stoppingly awesome?

Repeating that process over and over again.

It took most of the day, but in the end, my hack job held.

I got my canvas.

Now I gotta carry out a good ole fashioned trust exercise.

You've no idea how many of those stupid things Garner and his team put us all through. Then again, why am I complaining about getting to fall into Steve's arms like a distressed damsel? Even if he wasn't Steve back then. He was still Rogers.

Back to this trust exercise.

I kept my suit on for another hour after I was sure I'd gotten a good seal before firing up the critical systems.

Then I took my suit off.

I've got another 62 days in here and I can't spend 'em in a suit. I certainly can't do that in the bedroom I'm making. The entire plan is to give me real space outside the suit.

Time to really test my creative skills.

“What the fuck is that?”

Kate winced as Tony jabbed at the immense screen on the wall, the LEDs in the vicinity of his prodding rippling like a disturbed pond.

“You don’t know?” She asked as she batted his hand away, marvelling at how she’d changed since she’d first been tasked with working with the upper echelons. She’d never have imagined just a few months ago that she’d ever smack Tony Stark’s questing, though at least clean, hands away from her beloved screens.

She never thought she’d be in the same room as Tony Stark.

Let alone that she’d be answering back.

“Of course I know, I just want to check to make sure everyone else knows too,” Tony tried with a shrug, waving a lazy hand at the other Directors and engineers at the table behind where the duo
stood.

“Your ego never ceases to amaze me,” Rhodey muttered.

“Pffft. Rhodey, you know me better than that! I don’t have an ego, it’s just one of the many, many things about me that makes me perfect.”

“Yeah…no ego…sure,” Kate huffed under her breath, scribbling a note on her pad as she stared intently at one of the satellite readings, squinting at the picture in an attempt to make sense of what she could see.

“I’ll have you know I’m ego-less, Katie-Kate. And eggless, thanks to Pepper. I miss eggs, eggs were such a great food. Nowhere near as much cholesterol as you’d think. I miss wheat more though. Why are we wheat-free, Pep?”

“Focus.”

“On what?”

“On figuring out what our little Martian is doing?” Rhodey suggested.

“Isn’t that your job?” Tony asked Kate as she headed back to the table, sitting heavily into one of the padded seats.

“Nooo,” Kate denied with a shake of her head. “That sort of supposition is hella above my paygrade. I can tell you he is currently in the Hab, I can tell you he’s currently alive because he’s been carrying our EVAs, five to be exact. Other than that…” She shrugged. “You bigwigs are the ones that trained him. What do you think he’s doing?”

Tony blinked rapidly and pushed his glasses up, though Kate was completely sure they didn’t need it. She’d grown used to the myriad small ways that the Director bought himself time to think, even his immense brain requiring the occasional extra second to formulate a response that was, in the eyes of Tony at least, the perfect blend of sarcasm and truth.

“Earning his Boy Scout camping badge?”

“Does it look…weird to anyone else?” Pepper interrupted the staring contest between Tony and Kate, the younger woman gamely fighting a grin.

Every head turned towards the Media expert. Tony reached across the table and snatched up one of the photographs from the stack that Kate had printed out. He spent a moment alternating bringing it closer and further away from himself before rotating the image 90° to the right.

“Just here.” Pepper pointed to the big screen, tracing an arc with her fingertip over the upper left quadrant of the circular main compartment of the Hab. With a frown, Rhodey stepped away from the table to join her at the screen, his own glasses appearing in his hand.

“Back it up a few frames.”

Kate reached out for the remote and pressed a few buttons.

“And a few more?”

A few more buttons.

“Stop!”
Rhodey snatched the photo from Tony’s hand, eyes flitting from photo to screen and back again. After a couple minutes of silence, he turned to Kate, tapping against the screen, ignoring how the engineer frowned at his mistreatment of the equipment.

“This image is the first from after it deflated?”

“Uh…” A few more button presses confirmed that it was.

“What?” Tony asked, standing up to join his friend, squinting at the screen as though it were a Magic Eye picture that would reveal its secrets if only he stared hard enough.

“I think I know why he needed to deflate the Hab.”

“You think he did this by choice?” Pepper asked.

“What?!"

“I hope so,” Rhodey answered her as Kate, left alone at the table, pushed her chair back to join them all at the screen.

“Oh,” she breathed as she got there, inspiration dawning.

“What?!” Tony cried.

“He needed Hab material,” Kate answered. “Right? That’s why he deflated the Hab, that’s why it’s wonky.”

“But he has spare, doesn’t he?” Pepper queried.

“He’s used a lot of it,” Tony answered, still frowning. “He built the harness for the second battery, and he might have had to use some to fix the hole after the airlock decompression. Whatever he needs it for, he needed enough to risk taking it directly from the Hab itself.”

“Is that safe?”

“No,” the other three answered in concert.

Log Entry: Sol 388 (2)

I lay in my bunk for two hours unable to sleep, jumping at every noise and possible sign of decompression in the offing.

I just took a sleeping pill.

The Hab either holds and I get a good night’s sleep.

It decompresses and I die.

But I’m tired.

Pill it is.
**Log Entry: Sol 388(3)**

I'd *just* got comfortable, and was drifting off when it occurred to me I never left that message for NASA.

Oops?

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**Log Entry: Sol 389**

I'm Alive.

Barely.

If not terribly alert or awake.

What the fuck is in those pills?

I've almost slept the whole fuckin' day away!

But the Hab kept its seal.

I better go let NASA know why they saw the Hab depressurize. Probably shitting themselves that Valkyrie's U-Turn was for nothin'.

After a potato and a double espresso worth of caffeine pills.

'*Hab fine. Needed canvas. Don’t worry. Be happy.*'

Rocks hauled, I got down to business.

This time without a suit.

Fuck yeah.

Unlike my surgery on the Hab, I turned a slightly more delicate hand to the tent. It had things I needed.

The airlock connector for a start. As well as the floor.

The rest?

Jettisoned.

You're gonna ask why, aren't ya?

Because seams are the devil's work.

Seams are weaknesses.
Seams fail and they let in water when it rains. On Earth anyway.

On Mars they fail and they'll let out the atmospheric pressure and the air and I die. Of the two, waking to find your sleeping bag became a one-man swimming pool overnight is far preferable to the rapid death that would occur here, but nobody really wants either.

So I don't want 'em.

Gluing sections of Hab canvas onto the existing sections of tent will leave me with yards and yards of seam that can fail. But if I'm only going to be sealing seams on the floor and airlock patch, I lose a lot of that worry.

I started with the floor. Or rather, floors, ‘cos I got the floor from the other pop-tent. I sealed them together and that was that. Then the two sections of Hab canvas got all cozy with each other and the floor, leaving it to set.

It ain't pretty, but it's scientifically sound. Plus, it means I’ve diversified from simply a fashion designer, to having a home furnishings line too. Gotta respect the hustle, right?

I wasn't gonna test it outside like a lunatic on the first go, so instead I dragged a suit into the tent, sealed me and it into it, and fired up the suit. It took a while for the pressure in there to provide a good test, the tent inflating, but not turning into a zorbing ball, and according to the suit readouts, pressure was stable.

Test. Take two.

Take the tent outside and repeat. Except this time, I'll be in the suit.

But first, I had to get the tent back into its packaging within the rover. Space is going to be at a premium, and if the tent already has a designated compartment to the side of the airlock, it might as well go in there.

Ever tried to fit one of those pop tents back into the bag they come with? About as possible as refolding a map into the same configuration it was in when you bought it. I spent an outrageous amount of time folding, pushing, punching, and swearing as I tried to bully the new tent into a space half as large as it needed to be.

Just so y'all know, threats do not work but they do make you feel a fuck of a lot better about how much time you’re wasting packing a motherfucking tent.

Totally worth it when I got to smack that big red button and have the little shit fire out onto the surface and inflate perfectly. And a fuck of a lot faster than it had in the Hab, which would have put it under a lot more stress, but visually the seams held.

I clambered into my new bedroom and wandered around, the new headroom giving me the freedom to stand upright - even Natasha wouldn't be able to stand in a regular emergency pop-tent - and walk around.

Exactly what I wanted.

After an hour of mooching around in there with no loss of pressure, I got bored.

I shoulda brought somethin' with me.

I wanted to leave the tent up overnight, without me in it, but just as I figured, that was a problem.
Did you not pay attention earlier?

My bedroom is attached to the airlock. To get out, I have to go back into the rover. To get out of the rover I need to get out the airlock. To get out the airlock, I need the tent not attached to it.

You see the fuckin' problem?

But I wanna test it.

I can whine about anything.

No time like the present.

Really wish I'd brought a book in here. It's not like I'm gonna be sleeping given I'm kinda antsy about being in here overnight.

Gotta do it sooner rather than later.

Used to go camping with my dad, back before he got sick. After we got to New York, he’d borrow a car from one of his friends, pile a buncha camping shit older than dirt into the back and he’d drive Becca and me upstate where trees weren’t only found in parks.

We’d spend a few days, hiking, fishing, getting into trouble, basically giving my ma a break from two loud, hyper-active kids, letting her relax back at home while we ran riot in the woods.

This ain’t nothin’ like that.

For a start, Becca ain't putting worms in my dinner.

Never thought I'd miss that.

Hope she's okay.

Log Entry: Sol 390

I never thought I’d say this, but…I'm ready.

Physically, I'm ready.

The rover convoy is set. I got all the food I’m gonna have. I’ve got the storage for my water. I got my O2 tanks. I got the Life Support Duo. I got the solar cells and the batteries.

I’m set.

Physically, I’m all kinds of ready.

Mentally, not so much.

I’m scared shit-less.

Sure, I’ve almost died, a lot, in this Hab. But it’s my home. It’s been my home for over a year. It’s kept me alive, even when I’ve wanted nothing more than to give up.
But I got 59 sols worth of testing and shit before I have to leave, so I got time to get to grips with it.

How fucked up is it, that I’ve spent over a year wanting to leave this place, and now that I am about to, I’m terrified?

Very, is the answer.

But there’s still shit that ain’t done.

Like figuring out a route to Schiaparelli.

Like deciding what’s coming with me.

Like deciding what isn’t coming with me.

So, maybe I’m not quite as ready as I thought.

That’s actually kinda comforting, in a fucked up way.

But sooner or later I’ve gotta get prepared to leave the Hab.

Um…

Someone wanna tell me how I do that?
Schiaparelli or Bust!

Chapter Summary

Bucky continues his work with preparing to leave, the crew deal with some of the fallout of extending Valkyrie's run and the team on Earth find a problem.

Chapter Notes

See the end of the chapter for notes

Video Log

You know the hardest part about the camping trips Becca and I would go on with our dad?

What to pack, what to leave behind. What you might need but in the end know you won’t. How to pack it.

That lingering feeling you’re forgetting something really fuckin’ important.

Really, really fucking important, and up here I can’t just beg, borrow, or steal anything I ain’t got. I just kinda die.

And you know that if you start digging around in what you have already packed, you’re gonna accidentally unpack something else.

I fucking hate it.

I also can never tease Becca again about her inability to travel light. I’m about to fill two fuckin’ great rovers with shit that I just have to take.

‘Cos I literally cannot live without it.

Did I mention I hate it? It’s not like shoving stuff into your car and hoping the trunk still closes. Becca used to have to bounce on top of it back when we were kids – the car dad always borrowed had a faulty catch and stuffed to the gills with our shit, it didn’t stand a chance.

I got two rovers, sure, but I gotta be smart about it. They could breech. Especially the trailer with its new soft-top roof. The trailer breeches, and I’m in R2D2, I’ll be okay. My convoy is connected and sharing electricity and various hoses share the air from both. But if one breeches, those hoses instantly seal to ensure the viability of pressure in the vessel that remains sealed.

As the Funvee is the one most likely to breech, I gotta keep the delicate stuff in R2D2 with me. The Life Support Duo can handle being in vacuum, they’d be okay assuming I take spares to fix any problems, so they’re fine back there, but everything else stored in the trailer will have to be able to stand near-freezing temperature and no pressure should the top come off.

Already in the trailer are the two batteries from the Hab – which are taking up about half of the room – and the Life Support Duo is gonna have to go in there too, and they ain’t exactly small. The RTG reservoir will have to be in the trailer too.
So it’s not really packing, it’s filling the spaces in between those things with whatever is necessary to bring with me, but not so necessary that I need it immediately to hand in R2D2 and that can take decompression.

My food for a start. I’ll keep a small number of potatoes with me, but the other 1,800 of them can fill the gaps in the trailer. It’s Tetris all over again. They’ve already been frozen and shot across the planet surface; what worse can happen to ‘em?

R2D2 has a lot of stuff in it and it’s gotta fit me in it. I also got another problem – I decided against storing my bed-tent in its actual compartment, which woulda been sane and logical and reasonable.

You can see why I decided against it, right?

My new bedroom is folded up as best I could and smooshed up against a wall where I can get to it without having to haul a buncha shit out the way. I want it to hand not just for use as my bedroom, but also in case R2D2 does breech and I need to get the fuck outta Dodge.

Why am I not storing it in the compartment and giving myself the daily joy of smacking the shit outta that red button?

Don’t fuckin’ judge me, a fella’s gotta get his kicks somewhere.

Those damn seams.

I gotta put a lot of pressure on the tent to compress it small enough that it’ll go into that storage bin. I also can’t control the speed at which it inflates once fired out. That’s gonna stress the shit outta the thing, and while my work is, of course, flawless, I ain’t trusting shit up here, not on the Schiaparelli trip. Better to fold the fucker and shove it in a corner and control the inflation from the inside of the airlock than risk it blowing halfway to Ares 4.

I’m paranoid, what can I say?

I’m gonna have a spare complete, functional EVA suit with me, and everything that is needed for repairs will be upfront with me; tool kit, spares, every ml of resin I can grab, every seal-strip the Hab contained, the trailer’s computer panels and every drop of water.

I even have a really complex – and likely hugely expensive – toilet.

A plastic, sealed sample receptacle.

I.E. a box.

It’s gonna be awesome.

Mommy, wow, I’m a big boy now.

“How’s Barnes?”

Kate banged her knee against the underside of the desk when she tried to spin around to see Doctor Rhodes standing in her doorway. She really should have gotten used to him doing that to her, suddenly appearing as though out of nowhere. Even after all these months they’d been working together, she was still a little overwhelmed with him arriving on her doorstep in person.
And if her heart still beat just a little bit faster in his presence, well nobody had to know.

“I got the email that you’ve got pictures of Barnes on various EVAs?”

“Yeah?” Kate asked, confused. She’d been taking notes of Barnes’ routine and behaviours, modifying her own schedule to fit his on Mars, leading to her having to tape blankets over her windows in order to sleep during the day, and became practically nocturnal as she noticed his routine, aligning the satellites to best capture the times of the day he was active.

Her social life was fucked.

Which she’d complained about out loud once and then instantly felt a wave of shame and shut her mouth part way through whining that she’d missed her friend’s birthday party. If she felt this pissed and upset about not seeing her friends, when she could still text and email them, then she had no idea how Barnes was feeling, a man left with nothing but pictures of his loved ones.

She’d stopped bitching to all her friends about it from that moment on, something no small number of them were evidently very pleased about. Iagos that they were.

As the date he had to leave the Hab approached, Barnes’d been increasingly active, multiple EVAs during the day, moving things into and out of the rovers, leaving the occasional note in Morse code, no doubt having realised the shitstorm he’d caused back on Earth the last time he hadn’t done that, but while she’d managed to get the amount of ‘missed’ minutes down to something Fury had accepted – there was only so much he could argue with the science of orbiting and the limitations thereon – the trip to and from the rovers was short, and it was hard to get clear images with Barnes in them.

“It from this morning?”

“Yeah, Barnes seems to keep to a pretty set schedule, first appearing outside from about 9am his time and I start images from then until the sun sets. I got a couple shots with him on the way to the rover.”

“Can I see it?”

“I’ve forwarded it to you already.”

“Yeah, but I’m not at my desk.”

“It doesn’t show anything particularly important – just a trip to the rover.”

“Still like to see it.” Rhodey’s tone was firm, and Kate didn’t question him further. She didn’t kid herself in believing that she knew the man well, or really at all, but she could practically smell the tension coming off of him. Kate didn’t know what was going on, or even if she wanted to know, but something was definitely gnawing at the Ares Director and she wasn’t about to make life more difficult for him.

A couple clicks of her mouse, had Kate bringing up the image on screen. It wasn’t what no doubt the public would expect from a billion dollar satellite; it was blurry, but relatively easy to see the white blob that was Barnes’ EVA suit, a darker splodge on the front – his faceplate – determining which direction he was traveling.

“He going to the rovers more often?”

“Yeah, I think so. There’s a lot of disturbance around the ground near the rovers. I think he’s figuring out how to pack what he needs. Speaking of, Stark ever figure out how to pack all that
“Eventually. He had to rewrite that program of his five times and somehow recruited Coulson to help him, but it is doable to take everything the engineers deem necessary to survive.”

Rhodey turned back to the screen and pointed at the little white blob that was clearly not carrying a large piece of equipment. “He tried the Atmospheric Regulator or Oxygenator in there yet?”

“Not that I can see. Guess he’s waiting to move that stuff around until he has to.”

“Perhaps. This as good as it gets?” Rhodes tapped the screen at the pixel-ridden picture, ignoring Kate when she swatted his hand away. She was really going to have to take out some sort of full-page ad in the next newsletter forbidding people from touching the screens.

“It has been taken from space,” Kate retorted. She felt oddly protective over the satellites she had control over. “My babies do their best.”

Rhodes grimaced as he realized how he’d sounded and he apologized, Kate nodding in gratitude as the Director scrolled backwards in the image roll.

“You know what he’s doing here?”

Kate squinted at the image in question. “Looks like he’s putting something in the rover, because in the other shot, when he’s going back to the Hab, he doesn’t look to have anything in his arms anymore. I don’t know what though. Looks small. A storage box maybe. If so, it’s anyone’s guess what was in it.”

“He finished work on the trailer then?”

“Looks like. He was in a lot of shots for days when he was doing the modifications, it was rare to get a picture without him in it. But since then, once the canvas was attached, he’s rarely seen out. Whatever he’s doing, he’s doing it in the Hab.”

Turning back to Rhodes she pointed to the area of the picture that contained the trailer rover.

“JPL think his modifications will hold?” She asked.

“They seem to think so, but they’re nervous.”

“So we know, and he thinks he knows, but he doesn’t know we know he knows they’ll hold?”

Rhodey blinked slowly.

“How much coffee have you had?”

“Too much or not enough, it’s hard to tell anymore,” Kate admitted.

“However much you’ve had, that’s your limit. I can’t handle tautology right now.”

**Log Entry: Sol 434**

It’s time.
Not time to go, nah I’m gonna be shittin’ bricks when that comes, but time to test drive this sucker.

I’ve spent days figuring out how to Tetris my shit into the rovers, and now I’ve got to embrace my inner Dread Pirate Barnes and rob New Brooklyn of its most critical systems.

The Atmospheric Regulator and the Oxygenator.

Which basically reduces the Hab to being as useful a tent as the Millennium Dome.

It ain’t as bad as it sounds. They’ve been shot across space and gently –relatively – landed and hauled around into the Hab and put together – by yours truly – so moving ‘em shouldn’t cause ‘em any great damage.

And I can still stay in the Hab without them for a while. The Hab is pretty big, and there’s just little old me up here. Even breathing in here all day long it’d take me at least two days to bring the CO2 level up to 1% toxicity level and will barely make a dent in the amount of O2 in the air. More than enough time to take the Life Support Duo for a spin in their new digs.

Besides, it ain’t like I got plants in here to keep happy anymore.

If Pathfinder was too big to go through the airlocks, you bet your ass that the Duo are too. But that’s okay. They got shipped here like Ikea furniture, all flat packed and boxed away.

Except when I finished puttin’ ‘em together I wasn’t left with a couple screws and a bracket that wasn’t on the instructions list.

I’m a fuckin’ professional, difficult to believe as that may be sometimes!

Putting ‘em back together again in the confines of the trailer was about as much fun as putting up the Hab from the inside, and there was barely enough room for me to be in there fixing the damn jigsaw puzzles together, but I’m a determined bastard, and I got it done.

Attaching the AREC was a breeze in comparison, liberating it from the outside of the Hab and strapping it down onto the shelf I made for it under the solar panels. I had to clamber around a little to get the hoses hooked up through the canvas roof, but that was easy for a kid that spent a few of his formative years accessing the best areas in abandoned – and not so abandoned – buildings for a little light criminal mischief.

No, I never got caught. Not by anyone not Ma. Who is way scarier than any cop or judge. Scared straight ain’t just a sayin’.

Well, sorta straight.

I filled the reservoir I’d made for the RTG to be submerged in with water and added the RTG to get it started on heating the water while I fucked around with other shit. When I’d run through my checklist of things to do, and checked it twice to make sure all the components weren’t being naughty but nice, there was nothing left to do but fire that puppy up and see how it coped.

Pretty fucking well!

Fuck yeah!

Then I shut down the Oxygenator. For it to be a real test, I need that off because for four days outta every five it’s gonna be dormant, sitting around waiting for me to take a day off and run it. I can’t monitor the equipment from R2D2 – none of the Life Support Trio were ever intended to be run in
the rovers and so their systems are not compatible with each other - but I can get readings on their output – R2D2 can’t tell me how the machines themselves are doing, but it’s screens can tell me the quality of the air which’ll be a big ole clue as to how things are doing in the trailer. The readouts start to look shitty and I know something’s wrong, all without leaving the discomfort of the driver’s seat.

Once the Oxygenator was off, it was time for a real test.

Safe in my suit, I released a tank’s worth of CO2 and watched the readouts. The rover freaked the fuck out but slowly, the Atmospheric Regulator did its thing, returning the convoy’s air to something I could breathe and not die.

Who is a good little Regulator?

I’m not spending another night out here, it’s boring as fuck, so I’m gonna leave it all running and I’ll check it in the morning. Sure, I won’t be really testing the Regulator because I won’t be breathing in here, but in the morning I’ll do a repeat of the CO2 release, see if it copes.

It needs to cope, can't get back to my crew without it.

Speaking of, not knowing how the fuckin' launch went is killing me.

I dunno how they're doing...

"But why can't we have pizza? That's all I'm saying. Just like a few, just for change or variety?"

"We've been over this, Clint," Natasha explained with patience as she stabbed her fork into her own meal. "Domino's won't deliver to deep space and Cho wouldn't clear foods that weren't expressly 100% nutritionist approved. Get used to it, you’ve got another few hundred days of it."

"But what's wrong with pizza? It's got cheese, it's got tomato, it's got meat - come on that's hitting all the best food groups!"

"Eat your egg...thing."

"Hmmm, chewy." If it was possible to chew passive-aggressively, Clint was giving it a try.

"Besides," Sam said, "NASA did send up that container of food for a celebratory meal for when we get Bucky back."

He saw Steve's eyes flick to him as he'd stressed 'when', the Commander's fork faltering on its way to his mouth.

"Pizza?" Thor asked, hope in his own voice.

"Orders are not to open it until we got Barnes. And I’m watching you, Clint. Anyone know his favourite food?"

All eyes turned to Steve.

"I don't know," he said honestly, "but I think he's gonna be pretty sick of potatoes by then. He likes pizza though, Clint, so if Garner had them send his favourite up, maybe you'll get lucky."
“If anyone is getting lucky when Barnes gets back, I don’t think it’ll be me.”

Without missing a beat, or having to stop loading his fork, Sam and Natasha both reached out and smacked a smirking Clint around the back of his head.

Stepping outside, the wind was fierce, shockingly cold for the time of year, a slap to the face after the heat of the office. Kate struggled with her backpack for a moment as she worked to zip up her coat, turning into the wind and trudging towards where her bike was chained to a railing. Quite deliberately beneath the sign that prohibited just that.

You could kick the troublesome girl outta boarding school, but you couldn’t kick the trouble out of her.

Or some shit like that. She couldn’t really tell if her thoughts were even in English anymore she was so fucking tired.

Another night, another ride home in the pre-dawn gloom.

Glancing around to ensure that nobody was watching her, Kate stepped off the path and into the shadows, turning her back on the illuminated walkway and looking up towards the stars. As a kid she’d practically memorised the night sky, sneaking out onto the roof of her father’s gauche mansion to watch them traverse across the sky, huddling under one of her mother’s coats as she leant against the chimney stack, teaching herself the constellations from a book she’d stolen from the library after her father had laughed at her request for her birthday.

It took her only a moment to find Venus in the sky, the planet practically impossible to miss what with being brighter than any other planet or star. Arcing over to the right of Venus was Saturn, and heading south from there she found Mars.

An unpleasant cold trickled down her spine at the sight of the red glow in the dark sky.

It seemed unreal to her, staring at the tiny dot far in the distance, that it was an actual place. A planet, no less. One on which a human being was currently, she checked her watch, heading to bed or at very least retiring into the Hab for the night. It seemed ridiculous, in her addled state, that Barnes was truly there, even after so many, many months of staring at the blurred shadow that was the man, that people had actually chosen to leave Earth and spend months in space to wander around the face of another planet.

Slumping back against the reassuring bulk of a convenient tree, Kate wrapped her coat closer around herself and watched her breath cloud in the air. Despite the late – or early, depending on how one looked at it – hour, she knew that the building behind her was alive with engineers and researchers, all desperately working through the night to ensure that the rescue attempt was a success. While the team could no longer communicate with Barnes, with Valkyrie headed back to Mars, and Commander Rogers insisting on being involved with every decision, the night shift was no longer the calm before the storm, Phil Coulson thriving under the added pressure and responsibility.

It was clear that it wouldn’t be long until he was promoted to the big leagues, and that he’d be taking his team with him. It was well, and long, deserved.
Even her tiny office appeared to be a hub of activity. Before, she’d have been lucky to see another person for her entire shift, but now she was lucky to go an hour or two at most without someone dropping by, wanting to stare at her screens or quiz her on what she thought Barnes was up to.

Which was getting more than a little annoying.

Kate was a social person and all, but damn it would be nice to have a little more time to herself. She was pretty sure that her Madonna impersonation was suffering with the lack of privacy to practice. She knew that her Alan Rickman one was.

Which was why she sighed when she heard the crunch of another person walking up behind her. She’d hoped she was pretty well camouflaged in the lee of the tree, wrapped up in her black coat, but clearly anyone determined enough was able to zero in on her location.

It must be how Barnes felt back when he’d first discovered he was being watched.

She recognised who it was long before they stepped up beside her, the rhythm of their footfalls, and especially their cologne giving it away. She remembered the days that cologne had made her stupidly weak in the knees. Now she just sighed inwardly and slumped further against the tree, to exhausted to talk.

Kate glanced sideways at Rhodes, taking in the hunched shoulders and crossed arms, his body language more closed off than she’d seen it before.

Something was up.

“Uh, you can tell me to go to hell, but why are you out here looking for me? Couldn’t whatever this is have been done over email, easy as pie? Like, waited for tomorrow, or later today when I’m back to going cross-eyed staring at my screens?”

“It’s about that that I’m here,” Rhodes shifted his weight and coughed.

“Oh?”

“Starting on your next shift, there’s, uh, going to be a change in your duties,” Rhodes pulled a face. “You’re no longer going to be managing the satellites. Your sole duty will be to watch Barnes.”

Kate thrust herself away from the tree, ignoring how the rough bark scratched down her back. “You have to be kidding me! What about course correction? What about alignment?!”

“Those responsibilities are going to be delegated out to others on your team. We need you on him,” Rhodes pointed up into the sky in the rough direction of where Mars twinkled. “We need your eye on every image, keeping up updated on changes.”

“I’ve been doing this job, and doing it well, I might add. Why am I being demoted now?!”

“Miss Bishop?”

“I am a futzing Orbital Engineer and you want me to play glorified cameraman? Like I’m some sleazy PI hunting down cheaters?”

“It’s what we need you to do right now.”
“No offense, but that’s total bull. You don’t want someone with my training, you want a paparazzo. I futzing hate this! It’s pointless! I’ve just told you he spends most of his time in the Hab!”

“Knock it off, Miss Bishop. This is a short-term reassignment. You’re now an expert on the Ares 3 site, on Barnes’ behaviour. This is what I need from you right now.” Rhodes’ voice had risen as he spoke, hands clenched.

“Okay. Can I just say? On the list of people you get to yell at - because of the bad day you're having, or whatever? Because of this amazing futz-up? I am very, very low on that list.”

“Miss Bishop…”

“How did my life fall apart so quickly? Maybe in my spare time I’ll write an app so people can follow Barnes on his phone. It’s all I’ll be doing.”

“He’s running out of time, Miss Bishop. We’ve no idea if he actually has completed the rover modifications. We need to know when he’s moving things, large things to the rovers. He’s got 16 sols to get done. You’ve got the best eyes.”

“I love my job. I’m good at it. I’d never have noticed that Barnes was still alive up there if I wasn’t. But I’ve worked hard to get here, harder than you’d believe and here you are, after everything we’ve worked towards – for months – and you’re knocking me down the ladder?”

“It’s what I need you to do.”

“It’s pointless!”

“Welcome to working for the government.” With that, Rhodey walked away, leaving Kate furious and speechless in his wake.

Kate, breathing hard, stared up at the night sky.

“James Barnes, James Barnes, what have you gotten me stuck with?”

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**Log Entry: Sol 435**

*The world was melting, the material of the Hab undulating and pulling apart before disappearing entirely, leaving Bucky staring up at an impossibly clear sky and bright stars, familiar constellations dancing an unfamiliar path across the sky.*

*Bucky should have been gasping for breath, hands clawing at the air but instead he felt nothing, no pain, no dizziness. Instead his attention was focused solely on the movement he could just detect on the edge of his vision. Stepping out of the darkness and into the bright lights of the Hab, grey forms advanced on him, their unnaturally long arms reaching out for Bucky as though to embrace him. Bucky scrambled out of bed, only to fall to the floor, the figures clinging to him, fighting each other for the right to wind around him.*

“Murderer,” one whispered.

“You’re not worth all this,” came another voice.
“They’ll all die for you.”

Bucky punched out in the direction of that voice, the one that had sounded suspiciously like himself, but rather than make contact, his fist met nothing but air, and the faceless figure laughed.

“You cannot even do that right. You’ll fail.”

Bucky woke, tears staining his cheeks, the taste of bile in his mouth.

I regret taking that sleeping pill last night. Or at least half of one. I know my maths was right. I know that. I’ve got a couple days in here, easy, without the Life Support Duo to keep my air safe. But I couldn’t sleep. Not at first. Which really started to piss me off – I’m not gonna sleep all that well on the road so I wanna be taking advantage of a real bed until then. Too keyed up, too bored from the driving, too consumed with wondering if the MAV is still in good condition. Worrying about my crew risking their lives to come for me…

I can’t believe I just referred to my bunk as a ‘real bed’. Huh, can you get Stockholm Syndrome with a planet? Getting reunited with my Tempur back home might be too much for me.

Fuck it, I’m willin’ to risk it.

Basically, while I’m still in the relative comfort of the Hab and my cozy bunk, I need to get some sleep.

But of course, the slightest hint of a headache – because of the lack of sleep – and I was pissing myself that it was the start of CO2 toxicity. A hint of blurred vision while starting at the computer screen before bed – because I’m fuckin’ tired – and I’m thinking I’m gonna die.

When did I become this frickin’ paranoid weirdo?

Oh, right…when an entire planet kept trying to kill me.

Is it paranoia if you’re right?

But the main reason I don’t really wanna take the fuckin’ night-night pills are the dreams.

My dreams lately have been amongst the worst I’ve ever had.

Guess that makes ‘em nightmares, huh?

Last night’s was a fucking doozy, but it ain’t the only one I’ve had.

I keep dreaming about the airlock, about the fear when I lay there waiting to die. I keep dreaming of being in the MAV and burning to death, of being in the MAV achingly close to Valkyrie and her just sailing by, Steve’s face at the airlock as he reached for me, straining for just another inch…

Woke up vomiting couple days ago after dreaming about the night my dad died. I’d been holding his hand when he’d sighed for the last time. It was so quiet a sound to mark such a momentous occasion, to separate the line between life and death, and I’d never wanted to hear it again.

Thanks for that, Mars.
The nightmares linger…but I guess the closer to leaving New Brooklyn I get, what do I expect? Apparently, to wake in darkness, dripping sweat, thin blankets twisted around me as I tried to catch my breath, shaking my head as though that might clear the images.

Fun fact – it doesn’t.

But even if I could talk to Garner right now, I’m so pissed at him still for blocking my attempts to talk to Steve – and likely any attempts he made to talk to me – I wouldn’t. Sure, it might ease my mind, but it definitely would piss me off so I’d probably end up even more awake.

I tried some of the relaxation techniques Sam insisted on teaching us all, and I guess they musta worked because between that, and filling the Hab with the sounds of bird song from Sam’s drive, I was out like a light after a mere three hours of tossing and turning.

You know when he taught us those? After I clocked Steve pretty damn good with those snowballs, which led to the most sexually tense moments of my life – dear fuckin’ god – and Sam figured I couldn’t keep doing that – not and actually keep my pants on – and that I had to learn to cope with the stress of training, without necessarily turning to ‘pulling the pigtails of the nearest Captain Tiny Ass.’

What I’m gettin’ at here, for the kids in the back not paying attention, is that last night wasn’t exactly restful. Which is a real damn shame, seeing as how I’m running out my caffeine pills – farewell sweet friends, you did your duty and helped me think my way outta here – so I only had a half a tablet to get me through the day, heading out to the rover to release another tank of CO2 and sit in the seat watching the numbers on the computer panel change.

While I sat there in my suit, I worked out the math on how long the Regulator would work off a single charge of the batteries.

A month.

All fuckin’ hell breaks loose, I got a month to fix shit. Of course, if I can’t fix it within a few days I’ll miss my intercept, but it’s nice to know I got that margin.

While I was out there, I gave my bedroom another go.

Which was a good fuckin’ idea, lemme tell ya.

Why?

Because the fucker popped when I inflated it.

Come on, man! You were my buddy, you were my pal! You were the one thing up here that was on my side!

Fuckin’ turncoat.

Remember when I said seams were a weakness?

This is the proof.

A seam that connected the wall to the floor had popped.

Rather than just sticking more resin on it, I stuck more resin on it and slapped a small patch of canvas over it, and slapped more resin over that and then duct taped the shit out of it. It ain’t pretty, but get
through that, air!

I’ll give it the day to set, maybe think about its Iago-esque tendencies, and test it tomorrow.

Log Entry: Sol 436

I tested my bedroom again this morning. It held but now I kinda don’t trust it. Which is pissing me off like you can’t imagine.

And I know that the more times I use it, the more the seams will weaken from the pressure of being filled with air that’s practically jet-propelled from the rover, and the more likely it is to pop again but if I lived in fear the whole time…

Oh, wait, I already do!

Which fucks me right off.

If the bedroom leaks, and I’m suitless, hopefully it’ll be slow and I can fix it. If it pops and I’m suitless, I’m fucked.

Oh well.

I’m just gonna have to try and fill it slowly from the airlock to reduce the strain on the seams. Which means instead of having it tucked away neatly in its own compartment, taking up no damn space in the body of the rover, instead I’ve got yards of fabric taking up a fuck tonne of space because have you ever tried folding this shit? Imagine holding a fitted sheet, that’s fifty times thicker than your bedlinen, is coated in a protective plastic-like substance and that you don’t wanna strain too much in case the seams pop.

No, I ain’t kidding. It sucks.

But that ain’t the only thing.

Because of the way the tent is attached to the airlock, if I wanna leave, I gotta take the bedroom down. But I wanna keep it inflated to test it. So I’m stuck in here for the next 8 hours.

Why 8?
‘Cos I said so. Also, that’s the likely length of time I’d be in their sleeping or otherwise puttering around.

With the airlock closed I can wriggle out of my suit, find a comfortable position – a relative term in here – and plan my trip to the MAV.

Acidalia Planitia won’t quite be the cake walk I’d be assuming it would be if I hadn’t gone on the Pathfinder adventure and discovered that NASA is full of assholes who lie about the terrain of the planet you’re stuck on, but it’s still as good as it’s gonna get. But I gotta get from there to Mawrth Vallis, and while that ain’t exactly the most direct route, it does point me straight to Schiaparelli like a goddamn arrow and given there ain’t a single road sign up here, that’s as helpful as Mars is gonna get.

But don’t worry, Mars fans, the hell planet makes up for that tiny favour, by following it up with
Arabia Terra.

Terror town on Mars.

At least for me.

Think of the most pot-hole ridden road you ever gone down.

Now imagine those pot-holes are fucking dozens of metres deep and kilometres across and I gotta go down and up every time. Why is that such a problem?

‘Cos I ain’t exactly on solid tarmac up here. The top level of dirt – and I use the term loosely – is like dust, then there’s pebbles and uneven ground and rocks hidden beneath that you can’t see. With craters, because of their shape, the wind blows shit around in uneven drifts, which can hide shit I don’t wanna run over, like weak spots or pebbles.

One rockslide, one slip of uneven ground, one tyre hits ground that’s more powdery dirt than rock, and I can fuckin’ flip the rovers.

So yeah, I’m fuckin’ looking forward to this.

I know my planned route is gonna have to adapt and change as I make my way across, but I wanna have at least an idea in mind before I leave.

From the expression on Kate’s face, not to mention the glower she was throwing at Rhodey when he entered the room, Kate hadn’t forgiven him for the demotion that she’d been handed. She sat next to Pepper, with whom she was chatting between glaring daggers at Rhodey, and Tony who was still in the shit with Fury, despite the success of the re-supply probe – and was affecting a totally unbothered air, lounging back in his chair as though totally at ease before Fury.

“Rhodey! My man, you’re here. Pull up a chair. You know Katie-Kate?”

“Yeah, Tony. I was here when you met her. I explained why she was at the meeting.”

“Oh, sure. Okay.”

“Why are we here, Rhodey?” Fury asked.

“Wanted to keep you all up to date on Barnes’ progress. Kate, do you wanna-?”

“Sure. From what I can determine, the rover modifications are complete. It’s not quite the design we were originally going for, but it appears to hold.”

“ Stable?”

“Yes, sir, Director Fury. It’s been inflated for several days now and no problem. He’s also made some sort of extension.”

“An extension? What is this, an episode of ‘Cribs’?” Tony laughed.

“I think it’s an extra room or something. Seems to be made of Hab canvas, so I feel safe in saying that’s what he deflated the Hab for. The Hab has remained stable since then so whatever he did,
It seems he did it well.”

“This tent stable?”

“Seems that way. He took it down for a day, I don’t know why, but it’s back up again and has been holding steady.”

“Why make it?”

“I don’t know. I’m not futzing psychic. Bedroom? Workshop? I don’t know.”

“Ooh, has Katie-Kate grown claws? Nice!”

“Tony, shush.”

“Workshop?” Rhodey asked. Kate stared at him in silence. “Miss Bishop, I know you’re pissed at me, but could you just shelve that for five seconds and help me out?”

“Pissed?” Tony asked, sitting at attention. “Why is she pissed with you, Rhodey?” Tony turned wide eyes to Kate. “Did he hit on you? Was this a red light situation? Do you need me to defend you honour?”

“I can defend my own honour!”

“Okay. Good, ‘cos I don’t think I could take Rhodey on.”

“You couldn’t,” Rhodey and Pepper chorused in agreement.

“Et tu, Brute?”

“Could we get on with this, please?” Rhodey asked, gesturing to Kate, who glowered at him for a moment, before flipping to the back of her notebook.

“When he first got Pathfinder up and running, he bitched a lot about being cramped on the journey and Cho spoke to him a lot about his hip and back pain. The rovers are gonna be even more packed with the crap he’s gotta take this time, so he probably wanted somewhere else to sleep.”

Tony opened his mouth to interrupt, but Kate held up a finger to quiet him. “But if he’d just wanted somewhere to sleep or stretch out, he could have just used one of the tents. I think he’s modified one to be taller and it’s certainly larger. If it holds pressure, he’d be able to move around easily without his suit. He’s also going to have to massively modify the MAV, he’s likely making himself room to do that. The rover isn’t going to big enough and the MAV won’t have life support when he first gets there, nor is he gonna have a lot of room to move around in the damn thing. He’s smart, so he’s solved the problem.”

“Has he moved life support in there?” Pepper asked.

“I think so.”

“Why, Miss Bishop?” Fury asked.

“Well, sir, the AREC is no longer attached to the Hab, and hasn’t been for over a day. I can’t see it on the rover, but it’s only small and with all the other stuff all over both rovers, it’s hard to really tell. But there’s really only one place it can be – with the Regulator.”

“AREC?” Pepper asked, totally lost as to why the rest of the room were nodding in agreement that
its moving meant Barnes had done something.

“It’s an external component for the life support. It has to be attached to the Regulator, so if it’s not on the Hab, the Regulator isn’t in the Hab.”

“Do you think he’s planning to leave soon?” queried Pepper, rapidly taking notes.

“He’s certainly prepared to. He wouldn’t move those components over until he was pretty ready to go.”

“Fuck yeah, go Barnes!”

“Don’t celebrate yet, Tony,” Rhodey warned just as there was a knock on the door.

“Come in, Mack,” Fury hollered just as a young man opened the door to step inside.

“Hello, hottie,” Kate breathed, not quite quietly enough, pinking when Mack smiled in her direction.

“Hello back to you.”

“Aww crap. Be right back, gonna go die of embarrassment now.” Kate slumped in her seat as Mack took a chair.

Directly opposite hers. With a wink.

“This is Alphonso Mackenzie-”

“Mack, please,” the newcomer said placing a bag on the table.

“Mack here is a Martian meteorologist. He’s part of why, Kate, I wanted you on Barnes like glue.”

“Huh?”

“What did you do, Rhodey?” Tony leaned across to Kate. “You can tell me, I’m a safe space, what did he do?”

“Why don’t you tell them, Mack?”

“Sure, no problem.” Mack pulled a laptop out of his bag and fired it up, spinning it around so most of the table could see it. “Last few weeks I’ve been tracking a dust storm that’s been slowly developing in Arabia Terra.”

“And Bucky will be going through there?” asked Pepper, pen already speeding across the notebook in front of her.

“Yes, ma’am, we suspect he will. If he travels through this valley here,” Mack zoomed in a little further on the image and traced a line down a portion of it, “it’ll point him straight at Schiaparelli, making his life much easier. But it does bring him into Arabia Terra. It’s the most direct route, even though it’s dangerous.”

“Dangerous?” Pepper enquired.

“Lots of craters, lots of large rocks, lots of ways to run into trouble or just take up a lot of time to divert around.”

“Okay, sorry. Thank you, carry on.”
“The size of the storm isn’t too great a worry. It won’t stop him being able to drive. At all.”

Pepper’s pen skittered to a stop.

“I’m sorry, I don’t understand. If it’s not an issue, why is it important?”

“The wind. It’s a slow storm, which would normally be okay, but the winds are looking to be fast enough to pick up the fine layer of dust on the surface. It’ll take it up into the air as dark clouds.”

“But it won’t stop him driving?”

“Driving, no. It won’t affect visibility as such. But it will block sunlight.”

Comprehension dawned on Pepper’s face, but she gave voice to the concern nonetheless.

“And he needs the light to charge the panels.”

“Exactly. Right now, we estimate that the area of the storm is receiving only 20% as much light as areas without.”

“And charging for longer isn’t enough?” Kate asked.

“He’s already charging all day long. With such a drop in the efficiency, it’d take him days to recharge. Days he doesn’t have. It’d take a 45 sol trip to 225 and he’d miss the intercept.”

“Valkyrie can’t wait for him,” Tony muttered.

“Whose fault is that?” Fury shot back.

“Gentlemen! Don’t think I won’t end any fight you start.” Both men held up their hands in surrender as Kate stared at Pepper in awe. The woman’s power was incredible and something to which she could aspire.

“Can he drive around it?” Pepper asked.

“We’ll be tracking his progress-” Fury started only to be interrupted by Kate.

“No we won’t.”

“Excuse me, Miss Bishop?”

“We can’t. If light can’t get through the dust, just how do you think the satellites are going to take images?”

“Fuck!” Tony spat.

“We can track him into it, and we can track if he gets through it, but while he’s in there, we won’t know what’s happening.”

“Fuck!” The rest of the table echoed.
“As the departure date for Barnes’ attempt to reach Schiaparelli approaches, today we bring you a different ‘The Barnes Report’. This morning I took to the streets of Houston to ask the people how they felt Barnes was going to do on the trip.”

Christine rotated on her stool to face the large screen behind her and the producers took over.

In the JPL canteen, now always manned and populated as everyone worked around the clock to complete the escape plan, an exhausted group of engineers rested their heads on their hands and blinked tiredly up at the screen.

“How do you think it’ll go?” May asked the others, sucking down half of her tea, wishing with her whole soul it were whisky.

“Umpphh,” came Bruce’s reply, their valiant leader’s head buried on his arms, forehead to the cool formica tabletop. It was entirely likely the man was actually asleep, and had developed, over the last few months, an autonomic process that was allowing him to try and answer.

“Slim majority in favour of success.” Hill slapped five bucks onto the centre of the table.

“I’ll take that action,” Jasper threw five ones down onto the bill.

“Hitting a strip joint later, Sitwell?” Hill asked with a smirk.

“Seventy-five percent in favour of survival,” May’s own bill hit the pile.

“Oooh, Cavalry coming in hot!”

Hill flinched away from Sitwell, sure the man was about to die at May’s hand, but the other woman was evidently too exhausted to do more than glower with only 60% of her usual intensity. Sitwell still froze like a terrified gazelle before slumping in his seat when May turned her attention back to the TV.

On the screen, Christine stood on the street, blonde hair streaming in the strong wind, the weather conditions appearing to make people even less likely to stop when she called out to them, but finally one succumbed to her pleas.

“Excuse me, ma’am?”

She was a harried looking woman, a young infant in a carrier against her chest, and two small children running around her legs.

“Yes?”

“I don’t want to take up much of your time, but-”

“Is this for the TV?” The woman pointed at the camera.

“Yes, ma’am, it is.”

“Oh, okay.”

“I wanted to ask you about James Barnes.”

“Who?”

“The astronaut?”
“You mean Bucky?”

“Yes, ma’am.”

“What ‘bout him?”

“He’s due to leave the Hab to head to Schiaparelli-”

“He’ll never survive that!” So saying the woman walked off.

“Booooo!” Hill cried, launching her roll at the TV, the bread bouncing off the corner and hitting the head of an unknown man who flipped her off and then threw the roll back with considerable force.

He missed, which lengthened his life considerably.

Back on the TV, Christine had captured another victim, a scruffy looking young man wearing entirely too much denim and a mildly vacant expression.

“Sir, can I ask you about the astronaut James Barnes?”

“Whatever you want.”

“Do you think he’ll survive the journey to the Ares 4 site?”

The man came alive. “Sure! Like, why not? Dude’s survived everything else, right?”

“That’s right!” Jasper crowed, startling Bruce into sitting bolt upright. Though his eyes were open May, sitting directly opposite him, was convinced he remained asleep.

“Excuse me, can I ask you a question?”

An older couple, walking hand in hand, stopped at Christine’s side.

“Do you think James Barnes will survive the trip to Ares 4?”

“Absolutely,” the man said firmly, earning a surprised look from his partner.

“You do?!”

“Sure! He’s smart, he’s determined, and he’s done okay until now.”

“Do you not think he’ll succeed?” Christine asked the woman.

“No,” the woman shook her head vehemently and then frowned. “Maybe. I don’t know.”

A gaggle of schoolkids followed, all four agreeing that Barnes would be fine, most of their short interview taken up by two of them being mercilessly teased by the others for finding the ‘old guy’ hot.

“Looking real good for me,” May announced, counting the bills and then stacking them neatly.

“Sir, can I ask you, do you think James Barnes will survive-”

“Who gives a ****?”

“Excuse me?”
“Have you seen the roads?” The man gestured behind himself to the tarmac. “They’re ****. What do I care what this guy does when apparently the government can spend trillions on him, but I can barely get to work?”

“Aaand come to mama,” May folded the bills and slid out of the booth to shove the money into her pocket.

“Show isn’t over yet,” Hill cried.

“Yes it is.” May flipped the power switch as she started out of the canteen. “Back to work.” She ordered. “And someone wake Bruce!”

Log Entry: Sol 439

Now for the true test. A real test-drive, none of this tooling around the parking lot shit I been doing up until now. I’ve tested every component separately. Even tested a couple at the same time as each other. Now it’s time to run everything at the same time.

I am however, this close to retrieval, not totally suicidal. I’ll be taking this spin around the Hab in circles, no more than 500m away from New Brooklyn at any time.

Just in case I gotta make a skip for it.

Sure, one day this little duckling is actually gonna have to go out into the big, wide, red world out there, but it ain’t today.

To do a real test, I gotta do somethin’ I’m not looking forward to.

I gotta weigh the rover down again. I ain’t hauling 600-odd litres of water from the Hab and back again. For-fuckin’-get it.

You know how much that shit weighs?

A lot.

Lemme tell ya.

So instead, I took 20L of water over, just enough for a test, along with everything else I wanna take with me. Then, rather than fill the whole damn thing up with rocks, I cheated and used the Gizmo to winch the Paperweight Formally Known As Pathfinder up onto the flatbed which saved me a day’s worth of rock hauling.

The rest I loaded up with rocks.

Fuck me sideways, I fucking hate rocks, even when I only had to find a few hundred pounds worth of the fuckers.

But I did it.

Not like I gotta choice.
I gotta know if things are gonna shift or break or some shit I ain’t prepared for, before I head out to Schiaparelli.

You know how much I could sell these rocks for back on Earth? Here I am throwing ‘em around – literally – and back on Earth I’d earn millions for them. Then again it’s illegal to try and buy or sell rock from the Moon so maybe I’d just get thrown in jail.

To me, these rocks are nothing special.

To Steve, and every other geology nerd on the planet, they’re the coolest thing.

Geologists are fuckin’ weird.

Dirt. That’s where it’s at. Dirt and plants.

Well, dirt, plants and air.

I’m a big fan of air.

Which is why I’m test driving this monstrosity I’ve made. I would fuckin’ kill at a monster trucks rally.

Now I’ve bullied the batteries into the trailer, I’ve charged them right up and then disconnected everything from the Hab. It’s all running off the batteries. I wanna see the sorta power drain that leaving life support on overnight is gonna pull.

Time to pull the plug.

Shit! Bad choice of words.

“Can’t believe you’re still making us do our daily tests, bro,” Clint bitched as he trudged into the Rec Room, followed by Natasha.

“We have a job to do, Barton. We’ve already committed mutiny and we’ve got a while before we get to Bucky, what else are you going to do with your time? Bringing Barnes home is going to be fantastic for public morale, but not being able to give NASA anything from our time up here? Not acceptable. Just do your work. You’re behind.”

“Because I’m doing some of Barnes’!”

“We’re all doing some of Bucky’s work, Clint,” Natasha slapped Clint on the back of the head, smiling at his scowl.

“Right now, I’m not interested in your science assignments, I need to know how Valkyrie is doing. Thor?”

“I have repaired the poor cabling on VASIMR 4. However, that has created a problem.”

“Of course it has,” Sam muttered. “Do tell.”

“The cable was our last at that size. If Valkyrie suffers another such failure, I shall need provisions with which to braid other cables together. Also, the Tesseract is decreasing in power output.”
"'Tasha, what the hell?" Clint asked.

"The decrease is expected. I've had to scale back the reactor's output because the cooling vanes are no longer working at optimum efficiency."

"Why not?" Rogers asked.

"They're tarnishing."

"How?" Sam blurted. "They're outside, there's nothing to react with!"

"But there is in here. If there's a microscopic leak, and dust or microbes wash over the vanes, they'll react just like they are. That's the problem - the tarnish is clogging the lattice and that's reducing the surface area of the vanes. That's necessary for the cooling. I had to dial back the reactor or risk the cooling vanes not being able to keep up and the reactor experiencing positive temperature."

"And that'd be bad?" Clint asked, already knowing the answer.

"Yeah. Yeah, that'd be bad."

"Boom bad?"

"Boom bad," Natasha confirmed.

"Can you fix it?"

"No. It's at the microscopic level. The vanes weren't designed to go this long without replacement. But, assuming that the rate of tarnishing doesn't increase, we'll be fine with the reduced capacity."

"You're sure?"

"No," Natasha replied sarcastically, "I thought I'd lie. Not like there’s anything important at stake."

"Alright then."

"Barton, life support?"

"It's doing alright. Filter scrubbers though are struggling. They weren't meant to run this long and we don't have as many spares as I'd like. I've got a way of kinda cleaning them with Thor's assistance but it's," he grimaced, "rough on the filter. It'll buy us time, enough I hope, but it's gonna be a race between them falling apart from overuse or falling apart from the chemical bath." Clint waggled his fingers, bright red and peeling in places.

"Keep on it. And wear gloves."

"We knew this would happen. We've more than doubled Valkyrie's run time. She's going to have issues."

"We can rebuild her," Clint whooped, "We have the technology."

"If we could fix my bunk room, that'd be good," said Sam.

"It still turning you into a Christmas turkey?" Natasha asked.

"I feel like I'm in a roasting tin."
"Can’t you utilise Bucky’s bunk? Surely upon his return he shall remain in the Commander’s quarters?"

"What?" Steve spluttered.

"Hey, I'm not breaking up a honeymoon! But Bucky's bunk is next to mine, and it's having the same issue. Besides, we've packed it full of non-temperature dependent portions of the re-supply. There isn't room for cockroach, let alone-"

"A falcon in full plumage?" Natasha asked, smirking when Sam flipped her the bird.

“How’s that for full plumage?”

"Where are you sleeping?" Steve asked.

"The only place I'm not gonna get underfoot or woken up. Airlock 2."

"No."

"Huh?"

"You cannot sleep there. Commander's orders. We're discussing parts of the ship failing. A seal fails on the airlock and we lose our pilot."

"Where else am I gonna go?"

"Clint's bunk. Now he's sleeping with Natasha, his bed is empty," said Steve. Contrary to anything Steve knew about Clint, the man blushed.

"You know?"

"Of course I know."

"Was it supposed to be a secret?" Thor asked.

"But I was so subtle," whined Clint, to Sam’s laughter.

"Indeed, my friend, you were," Thor assured him. "But only for you. Which is to say, you were not subtle in the least."

"Huh?"

"For you, you were subtle. But still quite obvious."

"You mad?" Natasha asked Steve. "I know we're still on-mission and that we shouldn't and we didn't wanna rub it in your face that Bu-

"I'm happy for you, Nat. Don't think I'm not."

"This going to be a problem?" Natasha asked. "We won't be making a thing of it-"

"Take it from the in-house reigning expert of waiting too long - don't. You both deserve this. I want you guys to be happy together."

"Just not happy and loud," Wilson requested, weaving away from the punch Clint aimed at his shoulder.
“You know,” said Clint, “that’s what Bucky said.”

“He advised you not to be so vocal during love-making?” Thor asked.

“No.” Clint looked amused at Thor’s use of the term love-making. “He told me to get on with convincing Natasha I was worth it.”

"Just, keep it in your bunk, yeah?

"Public displays of affection make people very uncomfortable,” she said with a sly smile.

"Yes. They do."

Sam perked up in his seat.

"Hey, boss-man, you a screamer?"

"What?"

"Barnes seems more a moaner, but I don't wanna be trapped between two honeymooning couples that can't keep it down."

'We are not discussing my imaginary sex life."

"Come on, Cap, join the million mile-high club with us,” Clint encouraged.

Sam choked on his coffee, Thor thumping him on the back with an amused expression.

"I mean, not with us, with us. Not that you're not both smoking, not as smoking as Nat but nobody can be as smoking as Nat, I mean just look at her and don’t get me started on her boobs-"

"You ever want to get laid ever again, you'll shut up now, sweetheart."

"I'm trying."

"Try harder."

Log Entry: Sol 444

I’m almost down to reality TV as my only source of entertainment, but I ain’t quite there yet. I ripped the piss outta Barton way too much to be able to live down doin’ that to myself. Sure, he’d never know but… I ain’t riskin’ it. He has a sixth sense for knowing when someone that wasn’t him made a jackass outta themselves. He’d probably feel the vibrations in the universe or some shit.

Before I set off on Sirius 1 – the Schiaparelli trials – I fixed one major downside to the rovers – lack of being able to connect the entertainment drives into the screens. My hack job ain’t pretty, and it’s kinda intermittent sometimes, but there was no way I was managing two months in the damn tin cans without being able to watch TV.

I’m a millennial, what are you gonna do?

But it ain’t too much to ask, right? I just want somethin’ playing in the background to distract me
from the hours and hours of nothing that is going on. I didn’t wanna watch anything on Clint’s drive – I don’t know what the fuck Teen Mom is but today ain’t the day to find out - so went digging through everyone else’s, but half of Nat’s is like Thor’s – useless to me because it ain’t in English. Even what they got in English might as well be Mandarin to me – never heard of ‘em and in Thor’s case they seem to be these sweeping, epic stories about ten hours long, half of which is someone singing about how they’re dying. It’d make me a bad person to be yellin’ at the screen for them to just get on with it already, right?

Bucky Barnes does not do opera. Under any circumstances. Not after the disaster that was Ruddigore in high school. No, I ain’t talking about it. Not even Garner could get that hellscape of memories outta me. Although…one man’s epic struggle against a planet, against the god of war, felled by a mortal wound to his arm, sweeping soliloquies about his lost love…fuck me sideways. I’m living an opera.

Oh hell no. That shit just ain’t right.

I ain’t so hard up for entertainment that I need to scrape the bottom of that particular barrel, thank you, so that left me with Steve’s and Sam’s for something to have in the background between driving in circles.

Sometimes, I go crazy and throw in a figure of eight.

Wild, right?

What I’m gettin’ at is, wow this shit is boring. Even the risk of imminent death isn't keeping me excited any more. Five sols of tooling around the Hab, draining the batteries, charging them up, running them down, testing the bedroom...it's all going perfectly. Even getting just over 90km a sol. That won't maintain outta Kansas but it'll take it.

My test run did throw up a problem so obvious I'm ashamed that I didn't think of it before.

Heating my bedroom.

It was fucking cold, and no matter how awesome it was to be able to spread out and stand up and move around, doing it frozen takes the fun out of it. It reminded me a little too much of my first apartment after I moved outta my ma’s place, where I for some reason, despite payin’ my bills, I could have heat or water but not both.

Never thought I’d miss that shithole.

The rover and trailer regulate their own temperatures but the tent is just a hunk of canvas, with none of the equipment to do that. So in a direct reversal of the rest of my life - and I mean that – I was too cool in the bedroom.

But the fix was pretty easy for once. I don't use the rover's heater because I've got the RTG keeping the air warm. So relieving the heater of the fan it uses to circulate the warm air it would normally create isn't doing anybody any harm. And will keep all my appendages right where I want ’em.

Especially now that I got a chance to use ’em when I get back up to Valkyrie.

Check out that optimism. It’s been absent for a while, I know, but I’m giving it another try. Need all the help I can get, right?

I wired the fan into the mainline and set it on the rover floor, aimed out the airlock into my room.
The warm air in the rovers wafted into the bedroom and voila, my balls ventured out of my torso again.

What else have I discovered?

Raw potatoes are vile.

In the Hab I’ve got a microwave but it’s heavy and running it in the trailer would drain my batteries and really cut into my driving time and I need as much of that as possible. Before I leave, I’m going to have to mass cook the potatoes and the refreeze them. Sure, it won’t do shit for the taste or texture but there’s a good reason for cooking ’em first.

Why?

Raw potato is harder to break down, meaning my digestive system is gonna have to work triple time to get to the goodness they hold. Kinda like eating celery. Not to mention eating ’em raw may cause abdominal cramps, diarrhea, fever and an upset stomach.

I literally don’t need that shit in my life.

Or my rover.

But I need every calorie and nutrient the potatoes can give me, I'm already on partial rations as it is.

On my five sol test drive, I fell into the same sort of routine as *Pathfinder* only this time with the bedroom, aka Mini-Hab.

First thing I have a breakfast potato and deflate Mini-Hab.

While I'm in it, thank fuck I ain’t claustrophobic.

It took a while to get the sequence down, but if there's one thing I got while the batteries charge, it's time.

I suit up and close the inner airlock door- the one on the inside of the rover - but keep the outer one, to which Mini-Hab is attached, open. Having successfully separated myself and bedroom, from the rest of the rover, I depressurize the airlock. Once the air is pumped out, I get into the airlock and gather the material up and fold it up as much as possible, which ain’t much, lemme tell ya. I detach it from the outer airlock and close the door, trapping me and a hell of a lot of material into a small airlock while it pressurizes. Soon as that is done, I fall gratefully into the rover.

Once that's all done, I can come and go through the airlock like normal, to collect the solar panels and load 'em all up onto their shelves. One quick check of the trailer’s passengers and then it’s back into R2D2 to drive until I'm outta juice.

Then I do all that again, in reverse.

Only difference is, after the rapid pressure deploy of the tent popped it, I now take a softer approach, inflating it slowly, ensuring far less pressure on the seams, lessening the likelihood of it popping like a Pringles can.

Hmmm, Pringles. Maybe potatoes haven’t been ruined for me forever.

Once Mini-Hab is up and running, I can get in, take my suit off, kick back and relax. I wasn’t totally idiotic this time around, test-drive wise, so I brought a laptop and Clint’s drive. Nothing but me and
re-runs for most of the day. It’s like being an under-grad again.

But the big test was the fifth sol.

Today.

My very first Oxygenator day.

Which was a bit anti-climactic in the end.

I don’t really know what I was expecting to happen, because in the end, it was basically the same as any other day, just without a four hour drive at the start of it. The night before I’d not bothered to collect the solar panels, so all I had to do was fire up the Oxygenator and let it work its magic on all the CO2 that the Regulator had stored in the previously empty tank in the trailer.

Everything worked perfectly.

CO2 became oxygen, just like science promised.

After that, I ended the test.

It was a success.

I’m gonna be ready to leave.

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**Log Entry: Sol 446**

It snowed last night.

Did ya know it could snow on Mars?

I’m just teaching you shit left and right.

Don’t get excited though – it’s less *White Christmas* and more ‘flurries that don’t reach the ground’ otherwise less-romantically known as ‘ice microbursts’. I only know it happened ‘cos the Northern weather station told me all about it this morning, so I slept through the first snowfall on Mars that a human was here for. Oops? In my defence, I’m far enough from the pole that I didn’t expect anything, though it’d have been fucking cool to witness.

If I could have seen for shit, I’d have suited up and headed outside. Even if the snow here didn’t vaporize into streaks called virgae long before you’d get a chance, you don’t wanna try catching this snow on your tongue – in the northern hemisphere I’m at least getting water-based snow, but down south, it’d be carbon dioxide based, the only place in the solar system it’s known to happen - and snowmen ain’t a thing, it *still* would have been cool to stare up at the sky and watch the snow, pretend I was at home, standing on my rooftop during the first snowfall of the year.

Instead, I was making lists of everything I could think of that I needed to take with me to Schiaparelli.

Snow sounds way more fuckin’ fun.
Log Entry: Sol 447

Today I saw a stranger in the Hab.

I was leaving one of my final video logs when I realised I stink. It ain’t exactly my fault – soap and I ain’t exactly bosom buddies up here, and I’ve been living in a literal shit-hole for months, but if after all that I manage to disgust myself, then it’s bad.

It ain’t like I really need an excuse to take my last bath for…well, if all goes well about a year, but if not then, y’know ever.

Uplifting thought, ain’t it?

The RTG had been in-situ in the Funvee since the Sirius trial, but it took only a few minutes to liberate it, because there is always time to strip off and ready myself for the journey. Sure as shit wasn’t gonna get to lie around at Schiaparelli. Not to mention I made a discovery yesterday when I was packing up the Medbay. Or more accurately, pillaging it for shit I needed or might need.

Glycerin.

I’d clocked it when I’d taken inventory back on Sol 6 of all the shit that Barton had brought with him, but I hadn’t found a need for it. Little too interested in the whole bleeding and infected and potentially-dying to give a shit.

Now is its time to shine.

A cup of water, a few tablespoons of ascorbic acid powder (vitamin c to those of you not paying attention in chemistry class – like me) in place of smooshed fruit, and a cup of glycerine and voila, serviceable cleanser. Apply to skin, let dry and rinse.

It might look like milk but it’ll work much better at cleaning me up, even if it can’t do much for the smell. Will make my skin softer though, and who doesn’t want that?

I left the bath to warm while I used a tub of water to try to wash off as much gunk and dead skin as possible, rubbing my skin raw with a rag that was once a part of one of Nat’s ridiculously tiny jumpsuits. I was scrubbing hard at some particularly stubborn spots of dirt and roughness when I realised that they were actually bruises and welts.

I’d been reaching for my towel to dry off before applying my bargain basement cleanser when I’d caught sight of someone moving around in Hab. I’d frozen and so had they. So I turned my head slowly and caught them.

Wild hair lay slick to their head, the ends matting where they reached the man’s shoulders. His skin was pale, horrifically mottled with bruises and discolouration, stretched tight over ribs that could have doubled as a toast rack.

His face was gaunt, the circles beneath his eyes so dark he might as well have been sporting black eyes, only a glimmer of life showing in his blue eyes. High cheekbones arched out over hollowed cheeks and his jawline looked ready to slice through the paper-looking skin.

I turned to the side and he turned too. His spine, rather than strong and straight, was little more than a series of mountains and valleys, vertebrae pressing starkly against the skin. Bruises criss-crossed the expanse and I recognised the pattern as being where the weight of my EVA suit rested and
rubbed.

It was at that moment that I realised, with nauseating clarity, that the stranger was me.

Yeah, yeah, it took me a while. Fuck off. You didn’t see what I did. When I’d finished off my log, I must not have turned off the camera, and as a result, my naked body was being broadcast onto the main screen of the Hab.

I admit it, I was a vain guy growing up. I dare you to find a guy with better hair in New York, and while some of that was sheer genetics, some of it was all effort. I know I ain’t exactly ugly and I took pride in my appearance.

As a result I felt utterly unconnected to the body on the screen. I ain’t never been body shy, but I was never too far the other way either, never arrogant about how I kept my body looking, more because I wanted it to be capable of doing whatever I wanted it to do, than because I found any joy in being a gym rat. But it was strong, it was healthy.

It was hot.

Not this…corpse.

My legs looked barely more than sticks, appearing as though they shouldn’t be capable of holding up even my reduced weight, when once my thighs and ass had nicely filled out a pair of jeans.

According to Wade anyway. Creepy as it was, I took the damn compliment.

My arms, once defined and strong, looked like they did before I’d hit puberty and discovered weights. The scar on my left arm wasn’t helping things, a raised purple welt that ran around my bicep from where I’d had to carry out surgery to lance the infection.

With a grimace I turned away from the screen and began to slather myself in the cleanser. I had to mix up more, my initial concoction barely enough to cover my arms and part of my torso, but finally I was covered and waiting for it to dry.

In for a penny, in for a pound.

The guy on the screen had had wild hair, and while I could do fuck all about the grease – how glamorous is my life – I could at least be tangle-free. Nat’s comb struggled, my hair snagging around the teeth, and more than a few of the worst snarls were snipped out – I ain’t getting a headache spending hours pulling ‘em out – but by the time the bath was warm, my hair was as good as it was going to get.

Mores the fucking pity.

I didn’t turn to the camera to check on it though.

Coward?

Maybe.

But there’s only so much a fella can handle and more of the Cryptkeeper that my body has become ain’t on that list.

That okay with you?

I pulled my hair up into its now standard bun, trying to persuade myself that it was slicked with
pomade and not with months of grease.

Using my rag and siphoning off warm water from my bath, I scrubbed myself clean of the cleanser and revealed in how soft my skin was.

In comparison to the sandpaper it was before, anyway.

So I rewarded myself with a soak.

Like I said, it might be my last, I’m gonna linger for a while.

Maybe doze a little and pretend I’m in one of those sensory-deprivation tanks.

Maybe try and forget the guy on the screen.

Easier said than fucking done.

I really gotta get off this motherfucking planet.

Now that is easier said than fucking done.

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**Log Entry: Sol 448**

**Suit audio recording**

Today’s the day.

The day.

Shipping out and flying right.

Time to skedaddle.

Time to stop fucking stalling and just fuckin’ grow a pair and go.

Right now.

Fuck!

There’s no reason to stay. I’m packed, I’ve been packed since the test-drive, and now I’ve gotten rid of the rocks and *Pathfinder* and now I’m done with bathes, I’ve stowed all the water too.

When I moved out of Ma's to go to college it took one trip in a car borrowed from one of dad's old friends and when I turned too sharply there was still room for my boxes to shift on the back seat.

I've come a long way since then.

Turned into a fucking pack rat.

Every inch of the rovers is accounted for and stuffed to the gills and I’ve still got that lingering
feeling that I’ve forgotten something but I’m 99.9999999% sure that I haven’t. I’ve run a million and one diagnostics on everything – the Regulator, the Oxygenator, the RTG, the AREC, the batteries, the rover’s life support, solar cells, rover computer, airlocks and anything and everything else that I could think of. Back home, if I forgot something I could always buy, beg, borrow, or steal a replacement but up here I die.

What a shitty time not to get travel insurance.

You think I’m missing anythin’?

Well, not to be rude or nothin’ but what the fuck would you know? Y’all aren’t astronauts. Or at least I doubt it. To any of you that are, well, my apologies. But chances are you fuckers ain’t been up here, seein’ as how only eighteen people ever have, so I stand by it.

Everything is coming back as all good.

I’ve lived up to my new role as a Space Pirate and pillaged the Hab for anything that’s not nailed down that might be useful. Hell, I even robbed it of more of its canvas. Poor damn thing looks gutted, but it’s it or me.

No offense New Brooklyn, but in that scenario, I’m picking my survival every time.

This morning I carried out final shutdown. I don’t think I’m gonna get presented with a power bill or anything, but I guess in a way it was an homage to the original mission. Like I’ve mentioned before, on Sol 31, we’d have shut down the heaters, the lighting, the computer systems, even the life support systems. Then deflated the Hab.

Call NASA crazy, but they weren’t super happy at the thought of launching the MAV right next to what amounts to a huge tank of oxygen. I’m fucking lucky the damn thing didn’t blow up when they took off.

Time to bid farewell to New Brooklyn - and I never expected to get weepy about that, but just like when I went to fetch Pathfinder and the Hab disappeared behind me, I felt that burn at my eyes and tightness in my jaw.

Unlike then, this time tears fell, fat and heavy. You kept me alive, Hab. Just don't take this the wrong way: I hope to never see you again- and time to head to New New York.

Just call me Philip J. Fry.

I guess final shutdown is closure.

Or something.

I dunno. Ask Garner.

It’s fucking insane how quiet Mars is.

Don’t look at me like I’m insane. I’ve never actually really experienced the oppressive silence before. The Hab has a lot of moving parts, fans, heaters, the computers – there was always a lot of noise. You tune it out after a while, just like you do on Earth. To you, your house is practically silent but trust me, to a stranger, your house is noisy as fuck. It’s the same sorta thing up here – I’m used to the sounds of the Hab.

The rovers have the same issue – they make noise. When I’m in the suit on the surface I’ve got the
radio crackling, my own breathing in the helmet, the sound of wind rushing over the suit…

But now, everything that makes noise in the Hab is in the rover, or turned off.

It’s deafening how loud it is.

I can hear my heartbeat.

It’s fuckin’ creepy.

Did you know some researchers made the most silent room on Earth, and it drove people completely nuts? Look it up. People couldn’t stand it.

I got a planet of that.

I gotta get the hell out of crazy, introspective town and head to the rover.

C’mon, gimme a break…it’s time for me to my future…no matter what it might bring. A guy might start to consider his mortality…

Time to get this wagon train on the road!

On a scale of bad decisions from that time I dyed my hair platinum blond to joining NASA, I still think this is invading Russia in the winter.

Twice.

But then I got a PhD in Pretty Heinous Decisions so what do I know?

Besides, no matter how not ready I feel, it ain’t like I got a choice, right?

But first, I gotta pretty up the wall with just one final piece of graffiti.

*Bucky Barnes was here for 449 sols.*

*He ran away to become a pirate.*

*Some of his time here didn’t suck but most of it did.*

*New Brooklyn was his home.*

Be good to it.

*Schiaparelli or bust!*

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**Chapter End Notes**

Yup, the bit at the end is shamelessly snaffled from Cast Away because t’s awesome
Blowin' In The Wind

Chapter Summary

Barnes has started his trek across Mars, but can he figure out what's going on around him? Can he escape it?
Back on Earth, will NASA face difficulty with the recommendations from the Commission that has been investigating them?

Chapter Notes

sorry this is a day late, yesterday I was doing a charity swimathon and totally threw my physio pacing out the window and was exhausted and ended up taking an involuntary and somewhat extended nap and it became a bit late to post.

“You can’t be serious!”

“You why not?”

Sitting on the floor of Kate’s tiny office, Miles was devouring his fifth bag of Doritos – and getting orange powder everywhere which the cleaning staff would no doubt leave another passive-aggressive note about – and being adorably wrong about the superiority of Nacho flavour chips.

Gone were the days when Kate Bishop had to stare and stare and stare at the images of Mars in order to note the changes and understand what Barnes was up to, like some extra-terrestrial Magic Eye image.

These days she was practiced at it, able to do little more than glance before noting if something was out of place. Today, the solar panels were out, the bedroom was inflated and the rovers looked good – for a given definition of good that included ‘beat up as all hell’.

She’d had a lot of spare time since Doctor Rhodes had removed most of her duties, and to take her mind off the bitter resentment she still held about that, she’d been teaching herself Morse code so that she didn’t have to keep flipping through a book of the symbols to try and figure shit out.

It mostly kept her occupied. But she was starting to no longer need to quiz herself or study the book so hard, so her mind was wandering back again to the day Rhodes had demoted her.

She’d tried to take it as a compliment. They’d worked well together, she’d been the first to notice Barnes was alive, she’d been insistent when Rhodes had tried to brush her off, she’d proven her worth time and time again.

Oh, how Kate had tried to see it as a compliment, that it meant the Director of Mars Missions trusted her, trusted her to watch over the most important man in the world. Or a world, anyway.

But that was hard to do.
She had no idea what was going to happen to her job when the Initiative was complete, with or without Barnes back on board. Would she return to her original duties? Would she be demoted further?

Shaking those thoughts from her head, Kate focused on the teen.

“Cool Ranch. All the way,” he repeated, crunching down on another chip as though the snap underscored his point.”

“You’re so wrong. Cool Ranch is boring.”

“It’s classic.”

“It’s New Coke!”

Miles paused in his sodium gorging and frowned. “What?”

“How young are you?” Kate despaired.

“I’ve seen you eat Katie-K-”

“Ahh, ahh, ahh!” Kate snatched away Miles’ chips in punishment. “Only Stark calls me that, and only because I can’t make him stop.”

“Sorry,” the teen mumbled before making plaintive eyes at his snack. Just because she could, Kate stole a couple, simply to deny Miles because she definitely wasn’t subjecting herself to the inferior flavour, before handing the packet back. She grimaced at the powder staining her fingers. “Ugh, shoulda brought chopsticks.”

“You…with Doritos?”

“It’s a gift. A useless, useless gift, but unless you wanna end up looking like someone that smokes ten packs a day, you gotta improvise around the powdery goodness.”

Miles looked down at himself and the dusting of orange all down his hoodie and across his thighs. He glanced back up, sheepish. “It’s not my fault. I’m almost down to crumbs.”

“Can’t you eat something less messy?”

“You’re just pissy because you know Spicy Nacho sucks.”

“How dare you, it’s awesome.”

“Awesomely bad, maybe. Why else wouldn’t any of the eight thousand vending machines have the flavour?”

“How would you know?” Kate asked, only for Miles to gesture at the mound of junk food around him.

“I live with Stark, I get bored and hungry waiting for him to gimme a ride home. I’ve had more than a few vending machine dinners. I know all the best ones.”

“That’s kinda…sad.”

The kid shrugged. “I’m learning so much and who wouldn’t kill to be here. Besid-” He pulled himself up short and narrowed his eyes at Kate who couldn’t help but smirk a little. “Stop trying to
distract me! If Spicy Nacho is so good, why don’t—"

“Because I’m surrounded by Philistines!” Kate watched as Miles gave up on retrieving any more chip fragments and instead resorted to upending the bag over his mouth, the majority of the remnants falling into his gaping maw, but more than enough crumbs and powder falling onto hoodie and carpet.

“And animals. Philistines and animals.”

“Hey!” Miles was distracted from his offensive by digging through his piles of trans-fats and empty calories for his next packet of haute cuisine. He did look up, however, when Kate’s phone rang. For the third time in the last hour. Miles watched as Kate checked the ID before slapping her hand over the display to silence it. It didn’t stop vibrating however, and the pair of friends watched the device shimmy and dance its way across the desk before gracelessly flopping off the side into the trash.

“Yeah, that fits with the rest of my day,” Kate mumbled.

“Mystery man again?” Miles asked carefully. The first time the phone had rung and Kate had ignored it, despite Miles offering to give her privacy, he’d picked up on his friend’s tension and it had occurred to him that he didn’t know if she was in a relationship or not. He also sense that, no matter how true the sentiment, that his telling her he was ready and willing to kick the ass of whomever had hurt her would not be well received.

At all.

The pained expression on her face, however, was causing him to rapidly rethink that position.

“You okay? ‘Cos I know I look scrawny, but I can kick the ass—”

He stuttered to a stop when Kate turned tired eyes towards him and smiled.

“Appreciate it. But he isn’t worth it.”

“Ex-boyfriend?” Miles asked tentatively, fully expecting to get shot down, right hand groping around his foot for an appropriate candy to win back her love with.

“An ex-something.” Her tone was so sad, so defeated, so resigned, as though the pain was ancient, that Miles still proffered the selected candy bar.

“What he want?”

“Don’t know.” From the trash can, Kate’s phone made a plaintive, almost apologetic, beep to announce the arrival of a new voicemail. In response, Kate dropped the Butterfinger wrapper on top of it. “Don’t care.” Her tone hinted, heavily, that they were done on the subject now. Miles stared in silence at the ceiling for a while before he felt the weight of Kate’s gaze, and rolling his head around to meet it he raised an eyebrow at her.

“You okay?” She asked.

“Huh?”

“You okay?”

“I’m fine.” His confusion caused his words to come out more like a question.
“You sure about that?” Kate asked.

“Yup."

“Then why aren’t you stuffing yourself with your ill-gotten booty?”

“Jealous.”

“Of what?” Kate scoffed.

“That I have a metabolism and can eat all this while maintaining all this. ” The kid gestured at his lanky frame.

“Whatever you gotta tell yourself to get through the day, kiddo.”

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Report FAO the President

PRESIDENTIAL COMMISSION

On The

Avengers Initiative Incident

Monday 2nd February, 2037

Washington, D.C

Dear Mr. President,

On behalf of the Commission, it is my privilege to present the report of the Presidential Commission on the Avenger Initiative Incident of May 2036.

Since being sworn in in May, 2036, the Commission has been able to conduct a comprehensive investigation of the Incident. This report documents our findings and makes recommendations for your consideration.

Our objective has not only been to prevent any recurrence of the failures related to this Incident, but to the extent possible, reduce other risks for any future spaceflights, to Mars or further afield. However, the Commission did not construe its mandate to require a detailed evaluation of the entire Agency as a whole. It fully recognises that free will and human error will always find a way, and therefore cannot be totally eliminated.
Each member of the Commission shared the pain and anguish the nation felt at the loss of James Barnes, and then shared in the joy and delight at the discovery that he had survived. The logistics of rescuing one person from another planet were not something that our nation’s agency, or that of any other nation, had prepared for, and so the Commission recognised that a degree of latitude had to be allowed.

The nation’s task is now to look ahead, to the day of Barnes’ rescue and beyond, and to return to its recognised position of leadership in space. Surely there is no greater tribute to Barnes, and the Ares 3 crew than to do so.

Sincerely,

Wei Yen
Chairman

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**Log Entry: Sol 448(2)**

Had to stop within minutes of leaving, as The Hab disappeared from my screens.

Why?

To vomit.

Yeah, yeah, I *knew* it was coming, but in that moment it really sunk in – I ain’t going back. Not ever. Whatever happens from here on out, it’s just me and the Deep Red Dust. The Hab that’d kept me alive for over a year was no longer home. I’d never see it again. I’d either live or die, but it was gonna be out here; I was never again going to cycle through its airlocks, or walk my laps of the main compartment, or lie in my not-at-all-comfortable bunk.

That right there is a head-fuck of epic proportions. Which I did not enjoy.

I did enjoy dumping a small box of said vomit out on to the surface. Maybe a little too much, but I’m a bitter, sad little person.

Then I pulled myself together, and got the fuck outta Dodge.

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The accident of Ares 3, evoked a wide range of deeply felt public responses. There was grief and sadness for the family of James Barnes, and for his crewmembers and friends forced to leave his body behind; national resolve that James Barnes be memorialised forever; and a determination on the behalf of the Space Program such that the accident be a milestone on the way to achieving the full potential of all that space has to offer.

What has followed, has been extraordinary, and not a series of events that anyone could have
foreseen or planned for. As such, there was really no existing checks and balances with which to keep an agency with one clear goal in mind – the successful rescue of James Barnes – in hand.

The President was moved and troubled by the accident and then events that have followed after. As such, Mr President appointed an independent Commission made up of persons that were unconnected to either the mission or the agency to investigate matters. The mandate of the Commission was to:

- Review the circumstances surrounding the Avengers Initiative Incident to establish probable cause and to determine the identity of the person or persons responsible for the leak of the information to those aboard Ares 3
- Develop recommendations for corrective or other action based upon the Commission’s findings and determinations.

In this case, it was determined that a vigorous investigation and full disclosure of the facts, both by those within the agency and to the public by the investigators, were necessary. The way to deal with a failure of security and chain of command of this magnitude is to disclose all facts fully and openly; to take immediate steps to correct failings; and to continue the program with renewed confidence and determination.

Careful attention was given to the attempt to determine the source of the leak as well as from where they transmitted the data to Valkyrie. For the first few days after the incident first occurred, possibly as a result of the shock that not only had someone broken the chain of command in such a serious situation, but also that the Ares 3 crew had chosen to mutiny and had hijacked their vessel, NASA appeared to be withholding information about the incident to the public, and to the Commission. After the Commission insisted that NASA abide by their legal requirements, NASA became more forthcoming, both with the Commission and the public, reassuring the public that all aspects of the incident were being investigated and that the full story would be released in a timely manner.

NASA established several small teams of persons that were not privy to the information regarding Dr Foster’s Initiative prior to the mutiny and these teams cooperated with the Commission to support and aide the investigation. The result has been a complete and comprehensive investigation.

Log Entry: Sol 450

Good morning ladies and gentlemen, and welcome to Barnes Airlines, this is your pilot speaking. We’re currently cruising at an altitude of four feet off the ground, at a heady 22kph. On behalf of myself and the cabin crew, I’d like to thank you for your patronage. I know you have a choice of many Mars Airlines, and we’re all grateful that you chose Barnes Airlines.

I’d like to draw your attention to the right side of our craft, where we are passing Stark Crater, a previously unnamed blight upon the landscape that your pilot had to navigate around, much to his annoyance. Please take the time to gawp at how small and unremarkable this geological feature is.

For those aboard unaware, Stark Crater was named for Anthony Stark, Director of Ares III. He is an astonishingly short man, and thus, it seemed natural to name a small dent in the ground after him.

Once again, this is your pilot, James Buchanan Barnes, speaking.
Who is already losing his ever-loving fucking mind.

Bodes well.

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**FINDINGS**

1. An alternate approach to the Barnes rescue effort – the Avengers Initiative - was proposed by Doctor Jane Foster, and implemented the use of the Valkyrie spacecraft to return to Mars to retrieve James Barnes, rather than to attempt to send an unmanned probe with food and communication devices, known as the Zephyr Two project.

2. The only people proven to know about the Avengers Initiative, apart from Doctor Foster, were present at the two meetings Director Rhodes called with upper management to discuss the two options. These were dubbed the Elrond Project meetings. These are Doctor Foster, and Directors Rhodes, Fury, Potts, Stark, and Banner.

3. Director Nicholas J. Fury rejected the Avengers Initiative after consultation with upper management, on the grounds that it would risk the lives of the remaining crew members, while Zephyr Two risked only one life.

4. At 17.53 an unplanned and unrecorded encoded transmission was sent from NASA’s Johnson Space Center to The Valkyrie. This transmission appears to have originated from every console in every mission control room simultaneously. There was no metadata as to the identity of the individual or individuals responsible.

5. While it is statistically possible that Doctor Odinson, as an astrodynmist, could have devised the manoeuvre carried out by Valkyrie, the likelihood that he would give it the same name as his wife did, and implement it within minutes of Director Fury rejecting the Initiative is miniscule.

6. Of those that were present at the ‘Project Elrond’ meetings, all were able to provide alibis as to their whereabouts at the time of the transmission. Doctor Foster was on a conference call; Directors Fury and Banner were together in Director Rhodes office; Director Potts was briefing her team in preparation for a press conference announcing the go ahead of the Zephyr 2 mission; and Director Stark was captured on CCTV at 17.52 on the exterior CCTV and would not have had the time to reach any console in time to send the transmission.

7. During the Commission’s investigation all persons who played key roles in that decision were questioned. Each one attested, under oath, that there were not involved in the leak of information or providing aid in contacting Valkyrie. There was a large number of other persons who were involved to a lesser extent in ensuring the secrecy of the meetings, though these persons were never privy to the information they were protecting. They also swore, under oath, that they neither knew of the Initiative, nor were involved in the leak of information.

8. After the incident, rumors appeared in the press to the effect that NASA had been subject to outside pressure to remain with the originally planned Zephyr Two launch. Such rumors concerning unnamed persons, emanating from anonymous sources about events that may never have happened, are difficult to disprove and dispel. Nonetheless, during the Commission’s hearings Director Fury, the maker of the decision to remain with Zephyr Two was questioned. He attested, under oath, that there had been no outside intervention or pressure of any kind leading up to the decision, and instead that it was made solely to protect
Conclusion
In view of these findings, and the overwhelming lack of any physical evidence, the Commission had no choice but to conclude that the individual or individuals behind the leak can not readily be identified at this time. However, it may be determined, if, in the future, new evidence is discovered or disclosed to the Commission by an employee coming forward. It is the finding of the Commission that the failure of the upper management to control the situation on the ground appropriately has potentially endangered five further lives.

Log Entry: Sol 454
Bored.
Boring.
The landscape sucks.
The scenic route is boring as fuck.

Recommendations
The Commission has conducted an extensive investigation of the Avengers Initiative to determine the probable cause and necessary corrective actions. Based on the findings and determinations of its investigation, the Commission has unanimously adopted recommendations to help assure the return to safe flight and correct chain of command procedures.

1. Management Structure.
Both the Ares Program structure and NASA’s administrative structure should be reviewed. The project managers for the various elements of the Ares program felt more accountable to their center management (Director Fury) than to the administration that they serve. NASA should take energetic steps to eliminate this tendency at all of its sites, whether by changes of personnel, organization, indoctrination or all three.
It is the strident recommendation of this Commission that Director Fury’s position be re-evaluated the moment the Initiative is over, whether successful or not.

2. Independent Oversight
It is the belief of the Commission that NASA and its management have gone unsupervised for far too long. Therefore, it is the finding of the Commission that the Administrator of NASA should request the National Research Council to form an independent oversight committee to implement the
Commission's recommendations and oversee the effort to overhaul command structures. This committee should:

- Review and evaluate administrative requirements.
- Provide insight to the human resource needs of NASA, as well as the personality types best suited to fulfilling the required roles.
- Report to the Administrator of NASA on the adequacy of the current staff and make appropriate recommendations.
- Develop and execute a comprehensive inspection plan of all personnel, both scheduled and unannounced.

3. Astronauts in Management

The Commission observed during the investigation that there appeared to be a departure from the philosophy of the 1960s and 1970s relating to the use of astronauts in management positions. These individuals brought to their positions flight experience and a keen appreciation of operations and flight safety, provided insight into the mind set of the astronaut. As demonstrated in the case of the Valkyrie Mutiny, this insight can be priceless, and had members of Ares 1 and 2 attained management positions within NASA, perhaps the mutiny could have been prevented. As space exploration enters its newest phase, the few astronauts that have travelled to Mars should be integrated to transition astronauts into agency management positions. The function of the Flight Crew Operations director should be elevated in the NASA organization structure.

Concluding Thought

The Commission urges that NASA continue to receive the support of the Administration and the nation, at this time. The agency constitutes a national resource that plays a critical role in space exploration and development. It also provides a symbol of national pride and technological leadership.

The Commission applauds NASA’s spectacular achievements of the past and anticipates impressive achievements to come. The findings and recommendations presented in this report are intended to contribute to the future NASA successes that the nation both expects and requires as the 21st century approaches.

However, the Commission reserves the right to reopen this investigation at any time, for any reason, which may or may not be revealed to NASA management.

Log Entry: Sol 458

Mawrth Vallis, baby!
Y’wanna know how totally gone on the geology nerd I am?

My first thought when I was sure I’d passed outta the lowlands of Chryse Planitia and into Mawrth Vallis was, ‘Man, I wish Steve could see this’.

Because he’s a fucking nerd.

You ever wanna get the guy going, remind him of the sheer number of times a rover could have been landed here, but in the end the Landing Site Selection Workshop went another way.

Fun fact, it’s three.

Steve would probably give his left nut to be here,

Why?

The area contains one of the largest exposures of phyllosilicates. That’s clay minerals produced by chemical weathering to everyone not Steve, or other genus of geology geek.

So pretty much all of us normal people, then.

But Bucky, you ask, why the fuck is any of that important?

I asked him the same thing. Which turned out to be real stupid. Apparently, they only form when water is available, and they provide a unique opportunity to evaluate the water activity on early Mars, and could suggest that the place was actually inhabitable about 3.6 billion years ago. So, y’know, real fucking recent.

Oh, and the tiny little thing where the remains of volcanic ash that fell across the area, and formed a rock ‘cap’, may have protected traces of ancient microbes in the clay.

So, y’know, fuck all of interest to scientists.

If you think that I spent time bagging up a couple samples for Rogers – okay, okay, and NASA because they’ll shit themselves if I give ‘em a sample - that I could smuggle back up to Valkyrie in my suit – no, not where you’re thinking you fucking perverts, well then you know me real well.

What the fuck else am I supposed to do all day?

‘Sides, it gave me an excuse to dance around and yell about being finally in the valley.

Right, so it’s not like it’s that impressive, I’ve only been on the road for ten days, but that’s almost a quarter of the journey. I can totally do this. Totally got this under control.

I’m almost a quarter of the way to Schiaparelli.

Do you know how fuckin’ exciting that is? And now I’ve got my bedroom, I don’t feel like I’m gonna rip my skin off out of frustration.

Might cut my hair, though. It’s about shoulder length now, so maybe I should…

Nah.

Besides, Barton’s clippers, and the man himself who acted as hairdresser to the stars - get it? If you didn’t, fuck you. Like I said, blame my ma for my sense of humour. Or your own for your clear lack of one - are on Valkyrie, still a long way away from me. That’s hell of a commute for a lousy trim.
And I’m not hacking at my hair with my sheers. I may not be the vain dandy I once was, but I got standards, damn it.

Nah, I’ll rock the long hair. Thor can’t hog all the epic hair glory when he gets back, I’m the pathetic fucker that’s king of this place, after all.

Gives Steve something to hold onto.

This is what happens when I’m on an Oxygenator day, my mind wanders.

Sometimes into some pretty depraved places. Especially the places my mind wanders to when I think about the fact I’ve not shaved in almost two weeks and can’t be bothered to start now. I don’t need the oxygen mask anymore, I’ve got my suit.

Which allows my mind to skip along to places like beard burn. And the places it could be applied. The delicate, private, places…

Beard burn…

Count yourselves lucky I’m not telling you about all those depraved places, ’cos trust me, it’d take a while. A starving man can get detailed about a banquet he creates in his mind. Real detailed. Fuck the fact that if I survive this shit, I’m gonna be too weak to get it up with a fucking crane, my mind is going to some dark, filthy, and delightful places.

You’re gonna need to get me drunk to hear about that and one of the shittiest things about this planet is the lack of booze. I did think for a while about how I could make some sorta beer/liquor from potato skins.

The less I say about that, the better. Eating ‘em is definitely the way to go.

I actually kinda like Oxygenator days.

Even if I don’t get to spend it on a moonshine still.

I thought they’d be boring, just sitting around all day doing fuck all. I’m not used to that. Even up here, I’m used to doing something all the time like tending potatoes or rover modifications or prepping to get where I am.

And now that’s all behind me. Sure, I’ve got the Life Support Duo but the equipment is working just fine – for shit that’s far exceeded its warranty – and it doesn’t need me.

But I’m not too bored.

It’s like a well-deserved break. The other four days I’m busy folding up the bedroom, stacking the cells, driving, unstacking the cells, checking over everything – obsessively. I could write you books on the workings of the rover undercarriage in a way even the engineers who made ‘em couldn’t – write a note to the voyeurs at NASA and then re-inflate my bedroom.

It’s exhausting. Especially after over a year of maintaining a six person Hab by myself, while also being a farmer. Between all that, and the fact my muscle tone is for shit these days, I’m surprised I can actually stay awake long enough to drive, so Oxygenator days are kind of a treat.

An occasionally dull treat, but dull ain’t life-threatening, which is real nice for a change.

Now I got Mini-Hab. I don’t stack the solar panels the night before so they’re already out. All I gotta
do is a quick EVA to turn on the Oxygenator and I’m done. Then it’s just me, my bedroom and all the shitty re-runs a fella could ask for.

Otherwise known, as heaven.

Sure, I’d like a little football, maybe the baseball scores, hell I’d take ice-skating just for some variety, but I’m doing okay with the ladies in Miami.

They’re the best friends a fella alone on Mars could ask for.

Why am I watching re-runs instead of delving into depths of my friend’s drives?

Because everything I can even stomach the idea of watching, I have. All that’s left is either shit I don’t understand because it’s in another language – pretty much most of Nat’s drive, and an unsurprising amount of Thor’s – or even what they got in English might as well be Mandarin to me – never heard of ‘em and in Thor’s case they seem to be these sweeping, epic stories about ten hours long, half of which is someone singing about how they’re dying. It’d make me a bad person to be yellin’ at the screen for them to just get on with it already, right?

Bucky Barnes does not do opera. Under any circumstances. Not after the disaster that was Ruddigore in high school. No, I ain’t talking about it. Not even Garner could get that hellscape of memories outta me. Although…one man’s epic struggle against a planet, against the god of war, felled by a mortal wound to his arm, sweeping soliloquys about his lost love…fuck me sideways. I’m living an opera.

Oh hell no. That shit just ain’t right.

I ain’t so hard up for entertainment that I need to scrape the bottom of that particular barrel, thank you.

But you know what’s worse than the opera?

The reality TV.

I dunno who talked Thor into it, but there’s hundreds of episodes of reality TV shit on his drive. I thought Clint’s was bad with the Dog Cops shit, but Thor’s is a whole other level of… don’t know what the fuck Teen Mom is but today ain’t the day to find out and tomorrow ain’t looking good for it neither.

I ripped the piss outta Barton way too much to be able to live down doin’ that to myself. Sure, he’d never know but… I ain’t riskin’ it. He has a sixth sense for knowing when someone that wasn’t him made a jackass outta themselves. He’d probably feel the vibrations in the universe or some shit. So I turned to my old favourites. They got me through the last year, they’ll go with me to the end.

Speaking of, I didn’t even know I was in Mawrth Vallis yesterday when I entered it. At this point, the valley is so flat and wide that I actually can’t see the walls in either direction.

That’s how fucking big it is. As far as the eye can see, it’s flat. But somewhere, over the edge of the horizon in either direction, are towering canyon sides.

Can’t even imagine it can you?

This ain’t no Rogers Valley.
This valley wasn’t made the way you were thinking, either. I’m betting you’re remembering high-school geography and that valleys are made by the erosion of a river over a really long period of time.

Not this one.

Nope.

Mawrth Valley was cut in a single day by a flood. A mega-flood that would have scared the shit outta Noah.

Musta been a hell of a thing to see.

From space, where it was nice and safe.

Being here means one thing for certain.

I’m not in Kansas anymore, which the landscape is making real abundantly clear.

Like the Hab, I spent most of my life on Mars in Kansas. Almost 18 months.

I won’t ever go back.

Maybe one day - assuming I live to a ‘one day’ - I’ll get nostalgic over it. I’ll regale Steve with those stories I threatened him with.

Got my rock before I left though.

NASA will probably shit their pants at the thought of it, but I weighed it on the tiny scales in the Hab when I found it. It’s tiny. Trust me, the 42 grams of that rock ain’t gonna cause the MAV to fail.

I’ll make sure to piss before I leave. That’ll even the weight out just fine.

It’s cute.

The top side looks like you’d expect from Mars, and from, y’know, a rock. It’s dark, kinda dull, kinda reddish.

But when you flip it over…That side of the pebble hasn’t seen the light in thousands, if not millions of years. It looks…I can’t even describe it. But it’s beautiful.

It’s the rock I promised Steve. That’s right, I’m the kinda fella that’ll bring the love of his love something for his professional life, and his personal. Raising the bar, that’s me. I am a romantic asshole, I know, I know.

Gonna have to smuggle it past NASA to let him keep it, but I’ll fucking swallow it if I have to, probable radiation poisoning and all. Hey, I swallowed a wing-nut when I was eighteen months old and I survived that just fine. Of course my ma has never really forgiven me for the fact she had to sift through my diapers for three days but come on, I was 18 freakin’ months old.
“Welcome back to CNN’s The Barnes Report. I’m your host Christine Everhart. In today’s show we’ll be joined by Doctor Alfonso Mackenzie, Martian Meteorologist.”

The camera panned from Christine’s serious face to that of her guest, an imposing yet attractive man who appeared beyond uncomfortable in the suit jacket he wore. The poor garment was under great strain at the seams across his broad shoulders and large arms.

In short, Doctor Mackenzie was built like a linebacker rather than a scientist. Secretly though, Everhart was thrilled at how inexplicably (not to mention improbably) attractive every employee at NASA seemed to be. Aesthetics, when it came to ratings, was important and she wasn’t stupid. Christine thanked God that the days of scientists coming in only one model – bad perm, over-sized glasses, monotone voice – were well and truly over. ‘The Barnes Report’ had suffered a backlash after the Stern/Stark Showdown, and though that episode was proving unbelievably popular on various social media platforms, the show itself, not to mention Everhart’s reputation as a journalist and unbiased moderator had taken a severe hit – though she’d not been alone as Stern’s own ratings had dropped and Hammer industries share price had plummeted before slowly beginning to recover - and providing the audience with eye candy as well as information…well, it never hurt.

Even when it was clear that Potts had had to dress her guest at the last minute.

“Welcome to the show, Doctor Mackenzie.”

“Happy to be here.”

“Can you explain to the audience your role in the programme?”

“Broadly, my job is to keep the astronauts safe. More specifically I track and monitor the surface storms on Mars.

“One of the top priorities we have here at NASA in our Mars exploration is understanding the planet’s current climate, as well as the distant past, and just what occurred to cause the shift in the climate.

“Much like Earth, the current Martian climate is regulated by seasonal changed, however on Mars that’s due to changes in the carbon dioxide ice caps, the movement and quantity of dust in the atmosphere, and water vapour exchange. One of the most dynamic weather patterns is the generation of dust storms, which normally occur in spring and summer and can encompass the whole planet. Discovering and understanding how there storms develop and grow is a goal of our climate studies.”

“Why is that?”

“A better understanding of the current Martian climate helps people like me more effectively model the planet’s past climate behaviour. Part of the job the satellite network around Mars is tasked for is to monitor the climate every day, learn seasonal behaviours, that sort of thing.”

“Why?”

Mack smiled, broad and beguiling. “So we know where best to send our people. So we learn as much as possible about possible colonization.”

“I think that after the events of Sol 6 and now with the arrival date of Valkyrie back at Mars imminent, I think the viewers would like to know just how dangerous this storm is.”

“The events of Sol 6 were extraordinary. It was the most powerful storm we’ve ever witnessed on
Mars and the first even in Acidalia Planitia of even close to that magnitude. We’re still not entirely sure how the wind was able to achieve such force. Which is why that’s not where the danger to Barnes lies.”

“I’m sorry, even after the tragedy of Sol 6, you’re saying that the wind isn’t the concern? Couldn’t it all happen again?”

“It’s highly unlikely. From the satellite images and data, this is a very mild storm, averaging about 70kph, fast enough to lift the surface dust particles and carry them up into the atmosphere, shrouding the planet.”

“70kph doesn’t sound mild, Doctor Mackenzie.”

“On Earth, it isn’t. But, as we all know, Barnes isn’t on Earth. He’s on Mars, a planet with only 1% of Earth’s atmospheric density. The storm has velocity but no density. That wind speed isn’t enough to lift a kite.”

“So if the wind speed isn’t a concern, why is everyone so worried?”

“Because it isn’t enough to lift the dust particles and Barnes is solar powered. Everything he needs to survive requires power, power provided by his solar panels.”

“So how severe is the threat?”

“In 2007, a storm kicking up dust blocked 99% of the light, severely decreasing the energy to power the rover Opportunity. This endangered the efficiency of the heaters, and had the storm not abated, the cold would have killed the electronics and once that happened, once the storm cleared, no amount of sunlight would revive it.”

“How large can this storm get? If, for example, Barnes is able to determine that he’s in danger, will he be able to skirt around the edge?”

Mack shrugged. “These storms can engulf the whole planet, though this one is currently roughly the size of Spain. However it is expanding in size by the hour.”

“But can he get around it?”

“We do believe it’s possible. If he determines what’s happening, he’ll hopefully remain at the edge of the storm, rather than have to backtrack out of it, and therefore shouldn’t lose too much time. The danger comes if the storm changes direction or shifts. At the moment the storm is heading in a roughly north-west direction, while Barnes needs to go South/Southwest, and so skirting around it shouldn’t affect his travel plans too severely, but if the storm changes…” Mack winced. “There’s also the question of terrain. Barnes might encounter less favourable terrain on the path he’s forced onto.”

“Such as?”

“Craters. Craters are a danger to the rovers. They can be deceptively large, the walls deceptively steep, and much like sand dunes, can be far more delicate then they appear. He could easily flip the rovers or get stuck in a thick layer of dust and lose time.”

“Is there any chance the storm will burn itself out before he needs to course correct?”

“Unlikely within the timeframe. These storms often last months, sometimes even years.”
“So tell me, Doctor Mackenzie, what exactly is going on here at NASA given communication with Barnes has been lost?”

“Well, multiple disciplines are working around the clock to ensure the best possible outcome for Barnes—”

“His rescue?” Christine interjected.

“Of course.” Mack looked irritated at the ridiculous question. “We’ve been working flat-out, co-operating with the other agencies and countries to adapt the MAC and test the efficiency of the solar panels depending on numerous variables.”

“Such as?”

“How long it might take Barnes to realise the severity of the situation; how far into the storm he’ll travel before course correction and thus the density of the cloud cover; the quantity of decrease in the efficiency of the panels in relation to distance travelled per day; how time it adds to his journey thus reducing time for the necessary MAV modifications…there’s a lot of things to consider.”

“Again, with the lack of communication, is there any real point to all this work?”

“Did you—” Mack blinked and then stared at Christine, eyebrows raised, incredulous. “Are you serious?”

“I’m just—”

“Being stupid. Just stupid.”

“I just—”

“Of course, there’s a point! Barnes is a smart guy. I’ve got no doubts he’ll figure it out and get to Schiaparelli. We need to be able to reassure him when he gets there that he can carry out the mods in time. Boy Scouts always come prepared.”

“But prepared for this?”

“At the pace we’re having to deal with new trials here, we gotta be prepared for everything.”

“Your tone suggests that you have something to say to me.”

“Oh, plenty, but I’ll be keeping that to myself.”

“Well, then, I’ll just ask you one more thing, Doctor Mackenzie. What do you think of Barnes’ chances?”

“I’d say they’re pretty damn fucking good.”

Christine looked at the camera with mild alarm, but knew her producer had been ready and waiting. Since the Stern episode, all of The Barnes Report episodes had been aired with a ten second delay. The last thing she needed now was to have to make yet another public apology.

“Well, thank you, Doctor Mackenzie for Martian Storms 101.” Nodding at her guest, Christine turned in her chair to face her other side, the camera panning with her to show her other guest.

“Now that we’re all aware of the dangers that truly face James Barnes up on Mars, I’m once more lucky enough to be joined with frequent guest, Doctor James Rhodes. I’ll cut straight to the point,
Doctor Rhodes, if I may, and ask the question that I’m sure has been on the tip of our viewers tongue since word of the storm was released: is James Barnes doomed?”

Rhodey resisted the urge to sigh, though it was a close run thing. This was a person’s life they were discussing. A friend’s life. It wasn’t some sporting event or reality TV shit. He could just see, over Christine’s shoulder and out of the sight of the cameras, Mack pause in stripping off his microphone, the man shaking his head at Christine’s question and rolling his eye when he caught Rhodey’s gaze.

The Ares Director couldn’t have agreed more. Where was the compassion? The empathy? The god damn respect for Barnes and his family?

“He’s certainly in for a challenge. But he’s faced every challenge head on and gotten through.”

“According to the satellite data and the information released to the media, the dust storm that’s gripping Arabia Terra hasn’t abated at all, and is likely to block 80% of the sunlight.”

It wasn’t a question, but Rhodey nodded his agreement.

“Can the rovers – with their load of the life support systems – operate on only 20% power?”

“No. We’ve not yet found a way for that to happen, and even if we can, we currently have no way to tell him. But at the moment, the demands of the life support systems alone exceed the amount of power he’ll have access to.”

“How long until he encounters the storm?”

“Yesterday he entered Mawrth Vallis, and at his current rate of travel we expect him to reach the storm in 12 days.”

“But won’t he know something is wrong? Surely it’ll get dark. Can’t he just turn around?”

“It’s unlikely he’ll notice for at least a few days. The edge of the storm isn’t like night and day – when he first enters it, it’ll be barely noticeable. Each day will be slightly darker than the previous, and he’ll notice the efficiency of the cells decreasing but it’ll be too subtle for him to immediately know what the problem is.”

“So he’ll continue to travel further and further into the storm?”

“Yes. He’ll be driving towards the centre of the storm, where it’s going to be so bad, he’ll never get out.”

“Are we about to watch a tragedy play out?”

“Excuse me?”

“Are we all about to watch James Barnes-”

“Are you asking me if he’s going to die? Again?”

“I understand that’s a difficult-”

“Miss Everhart, you have to understand that I have the unique privilege of working with some of the most dedicated, intelligent and brave men and women on the planet. James Barnes is more than just an astronaut, more than a scientist. To me, he’s my friend. You’ll have to excuse me if having to sit by and do nothing but watch him head into danger isn’t exactly my idea of good entertainment. Neither is constantly talking about it with you like there isn’t a man’s life at stake.
“If we’ve learned, as an entire planet, anything from what Bucky is going through, it’s that there’s always hope. By all accounts he shouldn’t have survived the injury he received on Sol 6. He shouldn’t have survived the airlock. But he’s done it. And he’s come back every time. He’s smart. One of the smartest men in the world. If anyone can do this, it’s him. Now if you’ll excuse me, I’m not going to waste any more of my time here.”

Rhodey gave into what he’d been tempted to do from the very first day he’d been sent to *The Barnes Report*. He stood, stripped off his microphone and strode from the set, leaving Everhart gaping like a fish in his wake.

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**Log Entry: Sol 462**

I’ve not been updating this log very much in recent days because, well, fuck all is really happening. I’m coming up on another Oxygenator day so this is like my weekend so I figured I got nothing better to do.

Nothing really to report – I’m about halfway along Mawrth Valley now.

I think.

It’s not as easy going as Kansas but its pretty fuckin’ sweet.

Why do I only *think* I’m halfway? No maps. Not real ones ‘cos NASA had no reason to think I’d be out this far from the Hab. And yeah, I didn’t have ‘em for *Pathfinder* either, but that was a shorter journey, and my old friend Fear helped me out.

Phobos isn’t so useful to me now.

And of course I turned *Pathfinder* to shit before they could send me hi-res maps and suggested routes.

Round of applause to me.

But this is a long fucking journey and I get my course even a little off, I can miss Schiaparelli by miles. Thankfully, sailors on Earth figured this shit out for me.

Use longitude and latitude.

Latitude is easy. Mars has a degree axis of just over 25 degrees so instead of being pointed to Polaris like Earth, it’s pointed to Deneb.

Easy enough.

I gotta make a sextant.

Yeah, yeah, giggle over the word sex, I know you wanna.

So, making a sextant. Thankfully on this rock where things come only easy and hard, that’s easy too.

You need a tube to look through, a weight and something with degree markings. Between my kit
and cobbling shit together, I can, humble brag alert, make that in an hour.

So I did.

Now, every night, I suit up, head out and spy on Deneb. That’s a mind-fuck right there. I’m standing next to billions of dollars of complex scientific endeavours. I’m driving across fucking Mars to another piece of billions of dollars of mechanical engineering. I’m in a fucking space-suit.

And to navigate I’m using a 16th Century tool.

Whatever gets me the fuck off this rock.

Longitude however…

That’s the bitch.

That requires knowing the exact, and I fuckin’ mean exact time. Then you compare it to the position of the sun in the sky. For sailors, that was difficult. No digital clocks, no exact time, and clocks that largely relied on pendulums to keep time.

They don’t work on ships.

But in my billions of dollars of complex machinery, I got more clocks that you can imagine. They’re accurate to the millisecond.

And Phobos suddenly makes itself useful again. ‘Bout fucking time.

Remember when I was headed to Pathfinder I told you that Phobos was real close to Mars so orbited twice during a Sol? Well, that’s a nice predictable pattern, with the moon setting every eleven hours. I sit on my ass cooling my heels for thirteen hours a day as the solar panels recharge the batteries. In that time Phobos is guaranteed to set. When it does, I notice the time. Then I use the computer, and a couple sets of nasty equations and formula, to work out my longitude.

You might think it ain’t the fastest system in the world, and it’s not.

But I only need it once a day and I’m parked anyway, and I plan, on my shitty low-res maps my next days travel.

I figure it’s going okay so far.

Kate was settling back into her chair, struggling to stay awake for the last hour of her shift before America took over and lost the battle to keep her eyes open. She was just succumbing to the soporific beeps and hum of her computer when a sharp, and indescribably rude noise cut into her tranquillity.

She flapped a hand at the keyboard, so tired she was barely capable of comprehending what the
noise signified. It was only sheer chance that hand connected with the mouse, waking the monitors up just in time to blink blearily at the progress bar of the new images downloading. Leaving it to its own devices, Kate patted around the desk for the eye drops she kept stashed nearby, her eyeballs feeling conversely dry as the Sahara and watering like crazy.

She was old. Old before her time.

Sleeping all day and staying awake all night might have worked when she was in college, but even less than a decade later, those days were clearly behind her.

She hated Rhodey to the core of her being for that. At least, she did when she had the energy. Her skincare regime was rigorous but even if could only do so much against so much disordered sleeping. Not to mention she couldn’t remember the last time she saw the sun,

Blinking through the blurriness the cooling fluid caused, Kate clicked on the latest spate of images to be taken and opened an email, clumsily adding the ever increasing list of people to whom she now had to send updates, copying the message Barnes had left for her into the body of the email.

‘ON TRACK FOR SOL 495 ARRIVAL.’

She checked the latest information from Mack and frowned, adding underneath, 5 SOLS UNTIL STORM ENTRY.

She was settling back into her chair, returning to her gallant struggle to stay awake and promptly lost. She was just hovering in the hazy grey of nearly-asleep when another sharp, and indescribably rude noise cut into her doze.

Kate patted a hand around on the desktop until she located the ringing phone, not bothering to attempt to open her eyes, not entirely convinced she could, even if she wanted to. Her hand finally connected with handset, clumsy fingers curling around the device though the distant tinny voice when she initially brought it to her ear suggested she had it upside down.

Or at least it did eventually.

Sleeping all day and staying awake all night might have worked when she was in college, but even less than a decade later, those days were clearly behind her.

She was old. Old before her time.

She hated Rhodey to the core of her being for that. At least, she did when she had the energy. Her skincare regime was rigorous but even if could only do so much against so much disordered sleeping. Not to mention she couldn’t remember the last time she saw the sun,

“Hello? Hello, Miss Bishop?”

Spinning the handset and nearly dropping it in the process, Kate leant against it and returned to dozing.

“Hmmm?”

“Miss Bishop?”

“Yhhh.”

“Uh, it’s Mister Hogan down in Security.”
“Uh-huh?”

“There’s a man here. Says he’s your father.”

It was as though a bucket of cold water had been poured over her head. All exhaustion leeched from her bones, and had she been standing, she was sure that she’d have collapsed into a chair. Aching eyes slammed open, eyeballs burning as though on fire. Randomly she found herself wondering about how she could attest to how three major brands of eye drops failed utterly to live up to their claims.

“What?” She was proud of how her voice didn’t quaver. Other than the phone calls she’d been ignoring, she hadn’t heard from her father in years and their last meeting had not been…positive.

“There’s a Mr. Derek Bishop here. Says he’s here to see you.”

“Huh,” Kate breathed, mostly to herself. “Well, shit.” Guess she’d ignored one phone call too many. She checked the corner of her screen for the date: it was a mere three months after her birthday, far too early for him to have remembered the date and even when he did finally recall he had a second daughter, he customarily just had an assistant sign and send a card. Kate, unlike several major banks, could tell the difference between her father’s genuine signature and the practiced facsimile of one of the many assistants.

What the hell did the man want? And why couldn’t take a hint?

“I’ll, uh…I’ll come down. Don’t let him up here.” Down the phone-line she heard a rustle and a click of a door, the tone of the silence changing subtly.

“You alright, Miss Bishop? You want him gone, just say the word because I can do that. Get him off property and tell the gate guards he’s not to have access.”

“Uh…” Kate rubbed at stinging eyes.

“Miss Bishop?”

“Huh?”

“You okay? You made a funny kinda sound…I can send him away.”

Kate’s gut churned with the unfamiliar burn of what she’d been raised to believe was cowardice. She didn’t want to see her father, didn’t want to deal with that powder keg. But she’d been raised to hold her head high and stride into battle. To refuse to go down…her father would…

“Fuck him.”

“Sorry?”

“Not to sound like Stark, but can you tell him to leave a message and send him on his way.”

“Should I tell him you’re washing your hair?”

“It takes effort for it to look this good.” Kate’s attempt at levity fell flat, but hey, they couldn’t all be gold.

“We’ll get it done.” The ‘with tasers if necessary’ was unspoken but loud and clear. If there was one thing that Hogan was absolutely militant about, it was the security of not only the building, but the men and women within in, the man taking his role as protector extremely seriously.
Sometimes, that was a pain in the ass, but right now, Kate could have fallen to her knees and thanked God for Happy Hogan.

Kate hung up after thanking Happy again, not noticing the handset missed the cradle and stood. She smoothed down her sweater, an old, shabby purple number with more than one whole in the arm. The schedule was playing merry hell on her chores, and that morning she’d grabbed what was clean and marginally acceptable workwear. It wasn’t like she was going to get a warning for her casual dress – she was the eye in the sky after all. Her pants were at least freshly laundered, and pretty new, though scrubbing her clammy palms against them probably negated some of that.

She checked her watch – the satellites were about to enter one of their small blackouts giving her a few minutes of dead time. Enough time to get to the bathroom, have a minor freak-out in a room with a lock, and get back ready to resume her duties.

Squaring her shoulders, Kate pulled her hair back into a ponytail, and stepped out of the office, head held high as she strode down the hall with a strength of purpose she didn’t feel but if there was one thing she believe in full heartedly, it was fake it till you make it. And just ask her last loser boyfriend – Kate could fake it with the best of them.

Behind her, the phone began to bleet a discordant tone, pleading an empty office to return it properly to the cradle and to stop abusing it so much.

LOG ENTRY: Sol 462(2)

Bet the nerds back home wished I had more time.

I mean, if we’re wishing for shit, I’d really like it if they could wish for shit like me surviving, or having more food, or to not have fucked *Pathfinder*, or to have maps…

I’m gettin’ off topic.

Anyway, if I’m where I think I am, I’m about 175km to the east of McLaughlin crater.

Why is that important to the dweebs on Earth? And a little bit to this botanist/Mars colonialist?

Water.

Or rather, the site of an enormous ancient crater lake.

The Compact Reconnaissance Imagery Spectrometer for Mars instruments on MRO revealed the crater had deposits of clay and carbonates that formed in the presence of water.

But Bucky, loads of craters on Mars show similar deposits, who gives a shit about this particular crater?

Quite a lot of people, actually.

The rim of the crater has no cut-through. Water for the lake couldn’t have entered via river feed. Nah, it had to have welled up from the ground, which gets the hydrogeologists back home *real* excitable. It’s also one of the deepest craters on Mars and the signs of persistent water in the crater
has many thinking it might have been inhabitable.

What else gets the hydrogeologists super excited about the groundwater environment on Mars? Back on Earth, about half the total mass of living material exists underground and the same coulda been true up here.

Now, you’re thinking it could be a Morlock situation, ain’t ya?

Which is why I love you assholes.

If I had more time and resources and all the other shit I don’t got, you just know some of the nerds back home would be begging Rhodey and Stark to redirect me over to McLaughlin - especially after it was eliminated as a potential landing place for the 2020 rover – to dig some samples.

Which is where those boys and girls woulda been shit outta luck. This fella no longer digs.

Ever.

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**Log Entry: Sol 466**

Farewell, Mawrth Vallis.

Gone too soon.

‘Cos now I’m in fucking Arabia Terra. Terror as far as the eye can freaking see. I’m pretty certain my crude sextant and calculations of my location are correct, given how shitty the terrain has become.

Welcome to the highlands of Hell.

For two sols I’ve been slowly climbing up a long, gentle incline that just didn’t freaking stop, so I’m a hell of a lot higher than I was. Two and a half kilometres higher. Back on Earth sea level is elevation zero, but up here, with no water, NASA had to come up with a different way of measuring shit. Mars’ elevation zero is wherever the air pressure is 610.5 Pascals. Acidalia Planitia, back in Kansas, is 3000m below that point and right now I’m 2,500m higher than that.

Why is all this elevation shit important? Because, sooner or later I gotta start going back down again to get into Schiaparelli. Like Kansas it’s pretty flat and wide, a nice landing site for the Ares 4 mission. But I don’t wanna do that until I have to, and I’m gonna be fucking careful. Because unlike Kansas and Mawrth Valley, Arabia Terra is all about craters. It’s one of the most impacted landscapes on Mars, which is great for the nerds back home who get all tight in the pants about how old it suggests the area is – yeah, they count the number of craters as a determining factor in the age of an area because that’s sounds scientific, right? - but shit as fuck for me. These are huge, brutal, rover-killing craters, and I don’t wanna be going down and up and down and up and down again. It’s risky. Any amount of shit could be hidden under supposedly solid ground. I could roll the rovers because of the slope. And slopes, especially steep ones take more power from the batteries and lessens my km per sol.

I roll the rovers, I’m fucked.
I go off course, and I’m fucked.

I get lost in here, I’m fucked.

I end up going into, instead of around, a crater and my distance per sol will half, and I’ll take too long to get to Schiaparelli.

Then, not to be a repetitive asshole, I’m *fucked*.

You see my problem.

And if *that* wasn’t bad enough, I ain’t even gotten to the fractures yet. That’s right, craters ain’t enough, there are fucking fractures in the ground.

Gone are the days of boring driving, especially seein’ as how the majority of my driving time is in the murk of pre-dawn so as to give myself maximum time with the sun for the solar panels.

Now I gotta be observant at all times. You’d think I’d immediately be aware of entering a crater, but they can be hundreds of kilometres across with a real gentle slope down. It won’t necessarily immediately be evident that I’m in it. And if I *do* figure out that I’m heading into one, I gotta backtrack my ass outta there. Just ‘cos it was a gentle slope *into* the crater don’t mean it won’t be steep trying to get back out.

First up, getting between the Rutherford and Trouvelot craters. They’re 100km apart so even I *shouldn’t* be able to fuck it up.

Anyone betting on my pulling this off?

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**Log Entry: Sol 468**

Fuck yeah!

Who managed to shimmy between the craters?

This guy!

Okay, so, maybe there wasn’t a *lot* of shimmy seeing as how I had a hundred kilometres to aim at, but still, lemme have the accomplishment. I don’t got a lot of ‘em lately.

I’m a little under halfway to Schiaparelli now, having travelled roughly 1440km in 20 sols. Not too shabby!

On my Oxygenator days, like today, I gather samples from around my convoy, some rocks, some dirt. I label the date on the bags ‘cos in case I *can* bring ‘em back NASA can tell me where I was on each sol. Probably can’t take ‘em with me – too much weight on the MAV - but it gives me something to do, makes me feel like an astronaut again.

Maybe it’s that closure shit again.

Knowing my luck, I’ll get to the MAV, strip the shit outta it like NASA left it parked in the wrong
part of town, and then have to dump all my samples anyway. Heh, Ares 4 – if they come given I’m stealing their MAV – can take ‘em home with them.

With what they want the MAV to do, I’ll likely get asked if my left arm is better, and if not would I mind cutting it off to save the weight.

But maybe I’ll get to take ‘em, and collecting them is giving me somethin’ to do.

Still got my rock to give to Steve. That is coming in the MAV.

I’m also spending my Oxygenator day on mapping my next few days travel. I wanna evade and avoid craters like the plague, but I got one – Marth Crater – that I gotta go straight through, otherwise I’ll be going hundreds of kilometres outta my way to get around it.

I say straight through but I really mean that I’m gonna aim to bisect the edge of it.

He’d been about to enter the Rec Room when he heard it, Sam’s rumbling voice bringing Steve up short, leaning against the wall beside the door rather than continuing through.

“You know what I’m going to say, don’t you?”

The almost inaudible sigh tinged with annoyance informed Steve to whom Sam was talking, the understated response typical of Nat.

“The only way out is through. You got to work at it. No shortcuts.”

“That’s a little lacking in my usual style, but you got the highlights.”

“No less true.” Nat’s inelegant grunt was probably offset by the soft, but sad smile that Steve had witnessed gracing the tech specialist’s face when she thought nobody was looking. He knew that some viewed Natasha as cold, even unfeeling, but that was only because they chose to believe the mask she wore, not bothering to scratch beneath the surface.

“No less true,” Sam echoed softly. “C’mere.”

“I’m fine.”

“You’re lying. Besides, maybe I need the hug.” Sam’s voice was so sure, so certain that Steve felt Sam could sometimes see right through his friends, straight to their hearts. There was a rustle of clothing, a soft sigh, and Steve could picture it, Nat engulfed in Sam’s arms, the pair leaning into each other’s strength.

And, as he slid down the wall to slump on the floor, he was overwhelmed with shame. So long had he been caught up in his own grief, in the pain that was tearing him apart, he’d barely noticed the guilt his crew, his friends, carried themselves. No matter how isolating his grief felt, he was not alone with the loss.

Bucky and Sam had, to an outside observer, a strange and combative relationship. It had all started when Bucky had accidentally punched Sam full in the face in a case of mistaken identity while attempting to intervene and end a bar fight that Wade and Barton had started – naturally - and were,
despite their protestations to the contrary, also losing.

After Sam had inflicted his own revenge, and they’d both, along with several others, been dispatched to Cho’s apartment to have Sam’s jaw checked, and Bucky’s nose reset, the two had bonded somewhat over the sheer stupidity of other people.

The enemy of an enemy truly was a friend.

Wade, as a result, liked to call himself a ‘master matchmaker’ for bringing the duo together.

Further cementing their friendship, had been Bucky rocking up onto Sam’s doorstep with a coffee, and a bag of groceries with juice and all manner of canned and packaged soft foods for Sam’s delectation while his jaw healed up. The good deed was, inevitably, offset somewhat by Sam having labelled the bag ‘Geriatrics Care Package’ which had nearly kicked off a whole new tussle, but it worked for them.

That banter, the roughhousing, the endless pranks, they had reminded Sam of Riley, of the brotherhood he thought he’d lost once he’d left the Paras. To lose it all again, to once more be up there just to watch, to be the one that had flipped the switches to pilot the MAV away from the surface, away from Barnes…

And he wasn’t alone.

Just a few years before training, Thor’s seemingly happy family life had been rocked by the reveal of Loki’s biological parentage. To hear Thor tell it, a large man had simply appeared on the doorstep in the middle of Odin’s 70th birthday celebrations. Announcements had been made, dreams shattered and lives irreversibly changed.

Thor hadn’t remotely cared about not sharing DNA with Loki, he knew in his heart that they were brothers, but Loki had not felt the same and, feeling betrayed, had left home shortly after, following his birth father to ‘discover his true self’.

Odin had fallen into a deep depression at the loss of his son, a young man for whom he cared deeply, no matter how little he was capable of displaying, and though he couldn’t ever seem to verbalise it, he had been the epitome of proud father about both of his sons. When Loki had returned, even more wild-eyed and unpredictable than before, their relationship had been irrevocably damaged, with Thor left feeling torn between the two. Frigga had tried her best to hold her family together, but even the calming presence of the stately woman hadn’t been enough to keep the peace. Thor’s having moved to another country to pursue his dreams, while Loki had always felt unsupported by Odin in his own, hadn’t helped matters. Then Frigga had died and it had all gotten worse.

Bucky and Loki appeared quite different, one trustworthy and loyal while the other often mercurial and sly, yet months into their training, Thor had declared the two similar in many ways. Both were astonishingly smart, stubborn, wilful, and equally capable of inciting mischief what with Bucky’s constant breeching of a number of the commandments of astronauts. Thor, as was his want, had adopted the Ares 3 crew as his family, but had been especially fond of Bucky, likely partially because of the other man’s ability to match him drink for drink, something even Natasha didn’t bother attempting, probably because she had some respect for her liver.

Clint had lost so many people in his life, sometimes as in the case of his brother, more than once. Barney had never recovered from the loss of their parents at such a young age, and despite the loving and supportive presence of their adoptive parents, he’d fallen in with a bad crowd, turning to drink and drugs. From their teens onwards, Barney had been in and out of Clint’s life, sometimes needing a place to crash, other times money, but always, always breaking Clint’s heart.
The situation with Bucky, thought Steve, must be the worst form of déjà vu. Losing Bucky, only to find him again, only to nearly lose him again, then to regain him, all with no guarantee he’d ever be seen again….that emotional rollercoaster was draining at the best of times, but after a lifetime of it, it was downright cruel.

Natasha had lost her entire family and then her nation. It wasn’t something that Steve suspected many people noticed about her, the young woman going to great pains, for one reason or another, to ensure that they didn’t, but Natasha was, beneath her many masks and behind the many walls, a woman desperate to belong. To have friends. To be trusted.

To be nothing more than herself and be accepted.

And Bucky had. Right from the beginning. He’d accepted Natasha as she was; a survivor, a guarded and extraordinarily strong person who hid depths of vulnerability and pain that few could comprehend, a woman who knew she was more than the slurs and pejoratives that were slung at her by those angered by her placement on the Ares 3 crew, but struggled with it nonetheless. Bucky hadn’t judged her for any of, had accepted the flirt and the competent professional, the quip-master and the half-feral child that hid within.

What must losing him have done to her?

Yet, even knowing all of that, Steve had been too wrapped up in his own grief to notice that of his dearest friends. How many other times had his crewmembers had similar conversations without him? How often had they offered and received comfort and understanding from each other?

How much harder had he made their lives?

As silent as possible, Steve clambered back to his feet and tucked his tablet and files under his arm; there was nothing in the latest update that couldn’t wait.

He had some thinking to do.

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**Log Entry: Sol 471**

I woke up this morning to the smell of my ma’s lasagne and for ten wonderful seconds Mars was a dream, and then it all started to trickle back in.

Never once when I was at Ma’s was I sleeping on the floor with no padding, and my head half way up a tent wall, listening to a variety of sounds that even the metropolis of New York doesn’t offer.

Namely, oppressive silence. It was periodically broken by the low-level hum of the fan and workings of the LSD, but no construction, no random yelling, no loud sex from the neighbours next door...

So I opened my eyes and the spell was broken.

Fuck.
Log Entry: Sol 473

It ever occur to anyone else that we named the other planets in the Solar System after Gods, and yet when it came to our own planet, our home, we named it after fuckin’ dirt?

These, and other ridiculous shower thoughts, have been keeping me awake on my little road-trip, and right now I ain’t got anything better to do than record ‘em.

If I’ve got it right – and how fucking often does that happen? – I should be skimming along the southern rim of Marth Crater tomorrow, after which things should get easier.

I’m spending my fifth Oxygenator day in the middle of a trio of craters that form a rough sorta triangle and as nobody else is gonna name shit after me if I don’t, I’m gonna

So right now, I’m in the middle of Barnes Triangle.

Hopefully it won’t be like the Bermuda one.

‘It was here, in the Barnes triangle, that the rover convoy disappeared from sight, never to be seen again.’

I could be like the Loch Ness monster, conspiracy theorists ‘finding’ me in various images of Mars.

Or does that make me ‘Where’s Barnes?’

Maybe I should name this shit something else.

I don’t look good in red and white stripes.

‘Where on Mars is James Buchanan Barnes?’

I’ll work on it. Ain’t like I don’t got the time to kill.

Would be the first thing of interest to ever happen here. Barnes Triangle is some seriously unimpressive landscape. No towering volcanos, no ancient shorelines, no cool easy to navigate river valleys. Nah, this is the shit, literally, that made everyone think Mars was a flat barren landscape like the moon. A series of satellite shots from the 60s of this area looking just like the impact-cratered surface of the moon, and bam, everyone thinks Mars is boring all over.

Except me, but I know better. Can’t find something that keeps tryin’ to kill you boring.

Still, I found the least interesting terrain on Mars and named it after myself.

That might have been a mistake.

While I’m in the middle of the three craters that make up the triangle, along the sides there are 5 other pretty huge craters and I gotta be real careful not to accidentally start dipping into ‘em or I’ll have to backtrack and given my crude navigational system, I’m being super vigilant.

Mars likes throwing me curve-balls, and I gotta keep my eyes open for ‘em.
Once I get through Marth Crater, I’ll be jetting out of Barnes Triangle and then I just gotta head to Schiaparelli. The craters between it and me by that point will be pretty small in relation to the fuckers I’m trying to get around at the moment, and so going around them won’t waste so much time and effort.

So far, Arabia Terra terrain has been about as bad as I’d feared, but it can always get worse, so I’m watching out for those curve-balls Mars is so very fucking fond of, and keeping my progress slow and steady, going over little rocks and deviating around those fuckers that I think want to rip my undercarriage out.

Hey, it’s not paranoia if the whole planet is trying to kill you.

I collected my samples after a delightful lunch of more potatoes – fuck am I sick of potato – and then studied the images I’ve got of Schiaparelli that were sent before Pathfinder died. It’s at the base of a massive crater, and the best way in is on my direct-line path. And the way in is pretty easy to find – there’s a little crater on the northwest rim of Schiaparelli basin. But that itself ain’t what I’m aiming at.

Nah, I want the gentle slope just to the southwest of that.

That little crater doesn’t have a name, it’s too little and inconsequential and so, being King of Mars, I’m gonna name it. I was gonna call it the Barnes Entrance Crater, and then almost pissed myself laughing for about an hour.

Sounds like sorta shitty porn parody title.

My ma’d never forgive me for that! Becca’d never let me live it down, so I gotta choose a new name. Entrance Crater is still pretty bad, and fuckin’ boring, but at least it ain’t my Entrance Crater.

In other news, I think my poor equipment is showing signs of age. Not my equipment-equipment, that’s all good, no blue pills for me, but the tech I’m surrounded by ain’t doin’ so hot. It’s been forced to work for about 18 times longer than it was designed to, so really I’m surprised that it’s taken this long for it to start to become less efficient, but couldn’t it have been days from now?

The last couple sols, the batteries have taken longer to recharge because the solar panels just aren’t producing the wattage they used to. It’s no big deal really, they’ll just take a little longer to recharge, but damn, I coulda done without it right now. I still got 1435km to go.

“The updates come through yet?” Steve asked as he entered the Rec Room, sliding into a chair opposite Natasha after selecting a meal bar from the stash on the side.

“Yeah, few minutes ago.” Natasha took a swig of her coffee, the lines of tension around her eyes easing with every mouthful. If she was confused that Steve was initiating contact and eating without being prompted - even though she could tell Steve was having to concentrate far too much on chewing and swallowing - then she wasn’t going to voice it until she had more information. Far easier to act as though she knew everything that way.

“He entered the storm proper yesterday,” she continued, when half the mug’s contents were gone. She was a morning person, but even she wasn’t quite human until her second mug of the day. Natasha rolled the cup between her hands.
“You thought about what happens if he doesn’t make it to the MAV?”

“You think I’ve thought of anything else?”

“You can survive it, you know. You did before.”

Steve just snorted. His survival had been because his crew had sacrificed to ensure it. He couldn’t put them through all that again.

“I’m not saying it was easy, but we were getting along.”

“Guess so.”

Nat’s expression eloquently informed him just how convinced she was by that particular statement.

“Besides, this is Bucky we’re talking about. He’ll find a way.”

“It’s pretty fucking bleak down there right now.”

“Does NASA know you’ve got that sorta mouth on you? Should have sent you to hypnosis with Barnes.”

“Shut up,” he tapped his foot against her ankle.

“I’d have thought Captain America wouldn’t like that sort of talk.”

“I know what you’re trying to do.”

“It working?”

Steve shrugged. I don’t even know anymore.”

“You’ve got to have faith, Steve.”

“Natasha, you’re the least religious person I’ve ever met.”

“Not faith in God! I’m Russian, I’m far more pragmatic than that.

“Have faith in Barnes. He survived the storm. He survived explosive decompression. He survived getting Pathfinder, he accidentally turned the Hab into a bomb and lived to scare the shit out of Rhodey…He’ll survive this. He’ll survive because he has to. Its Mars vs Bucky and he’s pissed off enough by now not to go down without a fight.”

“Yeah.”

They sat in silence for several minutes, each lost in their own thoughts of the man they were hoping to save.

“Can I ask you something?” Natasha asked, uncharacteristically hesitant, staring down at the last dregs of her coffee, before forcing herself to meet Steve’s curious gaze, always brave, even in this.

“Sure.”

“If it were the other way around, if it was you down there…if it were my call, and be honest, would you trust me to make that call to come back for you?”
Steve stared at her, eyes soft, expression earnest.

“Every time. And I’m always honest.”

Log Entry: Sol 474

Uh….I fucked up.

Big shock, right?

Come on, it was bound to happen eventually.

Admit it, you’re as surprised as me it’s taken this long for me to fuck up.

I ended up at the rim of Marth and 'cos it’s so fucking huge, I've no idea where on it I am. I could be just at the edge and can skirt across - but I doubt it - or I could be right at the centre of the rim.

That's more likely because it’s me and I always fuck shit up.

I have no idea which way to go. The ridge of the rim runs perpendicular to the direction I was going in but now I'm off course either direction might be best, despite really only wanting to go south.

So now I'm hanging around, wasting time because I gotta wait for Phobos to swan across the sky so I can get my longitude and even longer to wait for the sun to set so I can clap my eyes on Deneb for latitude.

And it's pissing me off, even if I actually only lost about 20km.

You're probably all sitting there, willing me to shut the fuck and drive across it already.

Fuck you.

Sure, Marth actually ain't too bad in terms of steepness but say it with me people, slopes are bad.

Slopes are bad.

They're dangerous and I ain't risking it.

Not just to get you people off my back.

This is what the built in buffer time is for. To correct my fuck ups!

So, I've set out the solar panels and maybe the extra time will be good for 'em, give 'em more time to recharge the batteries because they're still under performing. I checked everything over in case it's something more insidious than just age, but everything looks fine.

Guess it's good I'm leaving, one way or another, 'cos if everything is already starting to lose performance, there's no way that it'd have lasted for four years.
Log Entry: Sol 475

I’m in trouble.

I worked it out.

I’m fucked.

I sat on my ass to watch Phobos twice.

Because I didn’t wanna believe what I was seeing.

I hit Marth Crater smack dab in the centre.

Dead-on.

Fuckity fuck shitballs.

Worst case scenario.

It’s gonna cost me a day, at least, regardless of the direction I go in.

But while that’s fucking me off, it’s actually not why I’m in trouble.

Even though I didn’t really know where I was, I still wanted to be efficient so I went for a walk. Do you know what the fuck it’s like to walk a kilometre, uphill, in an EVA suit?

Remember, that shit weighs 20kg.

This is my version of my grandfather’s ‘consider yourself lucky, I had to walk ten miles a day to school, in the snow, with no shoes, uphill.’

Except mine is so much worse ‘cos I’m on fuckin’ Mars.

For about a minute, all I could do was forget about how hard everything was up here, how much I wanted off this fucking wasteland, how much I hated my EVA suit. All I could do was admire how beautiful the land that stretched away from the peak was. Nobody, literally nobody, else has ever seem this view. Not like this. Seeing it from a satellite isn’t the same as like this.

Maybe nobody else ever will.

And then my brain clued me in on part of what I was seeing. I figured I could have gotten an idea whether I should go north or south from what I could see. But in the distance there was a haze in the air.

But not like a heat haze.

It was hard to describe.

Then I turned around.

The view was clear.

So I turned back to look east across Marth again.
Then west.
Then east.
Then west.

I must have been a sight for any passing Space Pirates because I couldn’t just turn my head, I had to spin my whole body through 180° to see the differences.

On the way to my current location, I passed a crater about 50km back, and when I turn that way – to the west – I can just about see the curve of the rim of it. So that means I’ve got about a 50km visibility. But when I look out east, across Marth, I can’t see even a hint of the curve of the opposite rim, which I should.

That’s the problem.

There’s only one explanation for why I’d have less visibility in one direction than another. It’d also explain the decreased output from the solar cells for the last few sols.

I’m in a dust storm.

I’ve been in a fucking dust storm for several sols, and the ever decreasing efficiency of the panels suggests I’m heading further into it, not skirting the edge.

I’m fucked.

I’ve got no data, no readings, no NASA to tell me where to go, where the storm is headed, how large it is…

You see why I’m fucked?

From the way the cells have given slightly poorer performance each day, the storm is worse the closer to Schiaparelli I get.

I’ve got to figure out what the fuck to do, and I’ve got to figure it out fast. Dust storms don’t sit around, they fucking move and if I stay still, it’ll engulf me.

But which way? I don’t know how large it is, I don’t know the direction it’s likely to travel.

And if I pick the wrong direction, I’ll die.

The only things I have to help me, is whatever I’ve got packed in my rovers.

I hope it’s enough.

With yet another yawn, Kate slipped a little further down the chair: coffee was not going to be enough. Not to mention, if she had any more, the muscle under her right eye was never going to stop twitching and it was driving her crazy. Not even the fancy stuff that Stark had bought her as a blatant bribe to head into the Super-Villain Inc. that was Bishop Corp in an attempt to find out what dearest dad wanted with her and NASA seeing as the man still wouldn’t take Kate’s lack of interest as a hint to fuck off, was going to tempt her. Besides, she’d asked Director Potts to keep that in her office – because everyone Kate worked with were thieving assholes when good coffee was in play -
and she didn’t have the energy to schlep up several floors and halfway across the entire compound, even if the stuff was liquid gold.

Instead, she tried to focus on her screens without going cross-eyed. The cluster of blobs marring the expanse of red dust that represented Barnes’ camp was still set up, and she found herself praying for the Martian to get to Schiaparelli already.

Kate Bishop was secretly of the belief that nobody on Earth wanted Barnes home more than her. Well, okay, his mom and his sister first, but then it was her. Despite the fact it was a little after two in the afternoon she looked, and felt like a zombie. Between her day job and trying to figure out what her father wanted after all these years because no way he didn’t have some sort of secret super-villan plan, she was beginning to wonder how superheroes handled the dual-identity nonsense.

It was exhausting.

Over the last few months she had developed with Barnes a sort of mother-newborn bond – she slept when he slept. Which meant adjusting her body clock to another planet. It was fine for him, to get up with the sun and go to bed with the night, but for her and the time difference, she was becoming increasingly nocturnal.

Stapling a sheet over her windows had been as effective as that time – broke and desperate and refusing to go back home for money – she’d used a shower curtain to replace the pane on the sole window in her then even-shittier apartment after she’d been robbed. It’d hadn’t kept out the cold or, ironically, the rain. She’d tried begging one of the small labs to give her some of the lightweight heat and light shielding fabric they were always working on, but the bastards wouldn’t give it up.

They seemed to think she’d not appropriately care for millions of dollars worth of research.

She just needed some sleep!

So, out of a desire to sleep, and also get revenge on the asshole downstairs that carried out DIY 24/7 for sixth months straight, she’d borrowed some stuff from Wade, and tasked Miles with covering up her windows. Kid was pretty resourceful – he’d covered her windows with tinfoil, bought courtesy of Stark’s credit card, and then nailed some heavy blankets over the top. She was glad it was still winter, or she’d probably learn what it felt like to be a Thanksgiving turkey.

It had turned out to be a pretty good job, but from the number Miles had done to the brickwork around the sill, Kate was never seeing her security deposit again.

Even with the bedroom blackout, it was impossible to build any sort of routine due to the longer day on Mars, Kate’s sleep patterns getting shifted by about forty minutes every night. She couldn’t remember the last time she’d done laundry, and she hadn’t seen anyone she didn’t work within weeks. As a result, people had learned really quickly to give her a wide berth in the hallways, present her with coffee if she didn’t have one in her hand, and walk really quietly past her office. Sometimes, she even got given a sacrificial offering in the shape of a donut.

She couldn’t wait for it to be over. Free donuts aside.

If only she could share more of the duties. America had the ‘night’ shift, but that was about keeping watch over the satellites, not the idiot on the surface, seeing as how it was pretty hard to tell what Barnes was up to in the pitch black. Thermal imaging really didn’t paint the sort of picture that was of any use to man or beast. But if there was sunlight touching the surface, Kate was in the chair.

Glancing at her watch, Kate checked the latest array of images, automatically clicking over to
another program to complete the log before she frowned and reverted to the original image to check her findings. Opening the log from the previous week, she compared the data she practically knew off by heart; she might not be as awestruck by the Directors as she once was, but it still paid to be able to rattle off any information they asked for, the second they asked for it.

Plus, it made her look hella cool in meetings to never have to refer to her notes.

Just as she’d suspected, Barnes was off-script. Normally, Bucky was up an hour or so before Martian dawn, packing up his tent-room and solar panels so that by the time it was light enough to safely drive, he was ready to head out. By the time the batteries were dead, the sun would be at its most intense, and Barnes would set up camp again.

As he’d transitioned from the easier terrain of Acidalia Planitia, to Arabia Terra, he’d begun delaying his start until the dawn twilight had passed to full light, likely anxious to avoid driving into a ravine or crack or jagged boulder. Even accounting for that delay, Barnes should have been packed up and raring to get to Schiaparelli. Yet, there on the screen, the tent-room remained up, the solar panels basking in the sun.

Which meant only one thing.

“Clever boy, aren’t you?”

She scrolled across the image to find the most northerly point and found his message.

She reached for the phone, punching in Doctor Rhodes personal cell number.

“Rhodes? It’s Kate.” The Director might have broken her of her habit of calling him ‘sir’ but it would be a cold day in hell before she called him Rhodey.

“The baby is coming. I repeat, the baby is coming.”

Silence greeted her pronouncement.”

“Uh, it’s time. He knows. Barnes knows about the storm. He’s making a plan.” She listened to the sound of her superior, her superior’s superior’s su- her boss by like a million times, yell as he slammed his head into a door as he tried to open it and walk through it at the same time.

“You okay, Rhode – oh, you’ve gone. Rude. See you in a minute then.”
I Can See Clearly Now...

Chapter Summary

Bucky has a plan to evade the storm and Shuri's been working on MAV adaptations.

Log Entry: Sol 476

When I was a kid, back before Pa died, there was this guy in our apartment building that used to race pigeons. He had these huge aviaries up on the roof that fuckin’ stank in summer no matter how much he cleaned. I did like the cooing though, that was kinda soothing.

My best friend at the time moved from living the floor above us to several blocks away, beyond the reach of our cheap-ass walkie talkies and our parents could hardly afford landline phone bills let alone get cell phones. So one day, Jim and I hit on the great idea of ‘borrowing’ a couple of Grills’ birds to use as carrier pigeons.

It was all the same, right? Racing, messages…it’s all flying.

Wrong.

Lemme tell ya, those pigeons were not interested and had no problems with lettin’ us know.

The first couple we tried kinda milled around the door to the aviary, and then the one we could catch and attach a message to, spent the next five minutes pecking away at the piece of paper until it was mere shreds and then shat on it.

We did finally get one to fly, but it was in the wrong direction, and had to lure it back with feed or have to explain to Grills what the hell we were doing. We gave up and settled for passing notes in class instead.

Now would be a real good time to have communication, wouldn’t ya think?

That ship has well and truly fucking sailed, and while even one of Grills’ pigeons would be welcome right now, I’m thinking that’s as likely as Mars stopping fucking with me.

I bet you’re waiting for the tantrum, huh? Me throwing shit and swearing up a storm and threatening to die outta spiteful protest.

That was old Bucky behaviour. Early days of the Hab behaviour kinda behaviour. All burning rocket fuel and blowing shit up. No plan. No real thought. Just taking action. I like to think I’ve grown up a lot since those days, even if it would be totally legitimate for me to get seriously fucked off about this.

All I want to do is leave. Is that too much to ask? Why does every single fucking thing up here have to be so hard all the fucking time? Can’t I ever catch a break?

But I’m not gonna get pissed, I’m gonna work this out.

To know how to get around the storm, I need to know a few, important, things; speed, size and...
shape of the storm. Easy as pie.

No, not fuckin’ really.

On Earth, the most important hardware for forecasting storms is the human brain. Sure the computer models, and satellite images, and radar displays are all real fuckin’ useful, but trite as it sounds, the brain is where it’s at. You gotta sort all the information the computer spits out, ditch what ain’t needed, interpret what is, and then while on a time crunch, put it all into some sort of coherent form.

Subjectively, the simplest method of estimating storm movement is an identifiable feature and where it’s goin’.

Easier said than fuckin’ done up here.

I got no rain.
I got no lightning.
I got no clouds.
I do got one thing though.

Darkness.

The speed and direction of the storm can be calculated using the distance which said darkness has moved between two points in time.

Which means I already know it’s moving. I know it’s moving towards me.

That gives me its rough direction. I also know I can’t afford to get any deeper in. If I’m already noticing that the panels aren’t producing as much charge, then I’m already in as far as I want to be. Which means I need to figure this shit out sooner rather than later.

I ran tests of the cells and they’re currently operating at 97% of optimum. So it’s a 3% storm.

Don’t sound like much does it?

Shows what you know.

I need to drive and stay alive. 20% of my daily power goes towards powering oxygen generation on Oxygenator days. I need that amount of power daily or I’m fucked. So if I don’t figure out the storm and get away from it, and it goes from blocking 3% to 81%, I’m done.

How new and different for me.

If I don’t have enough power to run the Life Support Duo, I certainly don’t have enough to drive.

If I can’t drive, I’m gonna miss my bus and I’ll die on this rock.

80% of the power the cells generate goes to my 90km sol a day habit. With the storm, that’s down to 77% and it means that yesterday I drove 3km less.

Don’t sound like much does it?

But it’s gonna get worse, and over time those small distances will add up, adding days to my journey.
That’s why I gotta get around this storm.

These dust storms tend to be huge – I can’t just drive through it, they can be thousands of kilometres across – and last months so I can’t wait it out.

So, I gotta figure out its speed, how it’s shaped, and its direction in order to skirt around the edges of it.

How?

By science-ing the shit outta this.

I know yesterday that I lost 3% to the storm. If I stay here another sol I can compare the cell’s output today to yesterday. If it’s only slightly worse, the storm is slow, but if it’s a lot worse, it’s a fast fucker.

Speed is the easy part.

I wanna move perpendicular to the storm, so I gotta know its shape and I got a plan for that.

With the batteries unable to get a full charge, I can do just under 87km today, so I’m gonna leave a cell here, drive 40km due south – roughly the direction I wanna go in – leave another cell and drive another 40km due south where I’m gonna make camp, putting one cell away from the array to measure it’s wattage.

What does that get me?

It gives me 3 data point references that I can compare and see how well the cells are doing. The more wattage a cell generates the further from the storm it is, the less it makes, the more in the storm. It’ll gimme an idea of where it’s going and which direction to go to outrun it.

Sure, it’s gonna cost me a couple days worth of driving, because day after tomorrow I’m gonna have to drive back again to pick those abandoned cells and then possibly drive back south again to escape the storm but a fella’s gotta do what a fella’s gotta do.

Good thing I found a way to bring extra panels.

I really fucking need to go south, and can’t be having the storm pushing me north.

Come on, Mars, cut me some shitting slack. You want me gone, and I wanna be gone but your little tantrums ain’t gonna help me.

As ever, with a Barnes plan, there’s an issue.

A tiny one.

How the fuck to record the wattage on the two abandoned cells? I can monitor the one with me, but the other two I’m gonna need data for, one that records the time so I can compare the cells at the same times through the day.

What do I got that can do that?

Fuck knows!

But I got a day to figure it out.
Least while I sit here the cells are getting more time to fully charge the batteries.

Steve sucked the taste of whiskey from Bucky’s lower lip, leaving it swollen and flushed. His fingers found Bucky’s tie, already loosened the moment he’d left the lecture hall, and began to nimbly untie it, sliding it free to nose the starched collar aside, pressing a kiss to the hollow of Bucky’s neck to feel the flutter of a racing heart against his lips.

Strong hands came up to press against his chest, pushing him away and Steve stumbled back, cheeks burning with rejection and shame, apologies and farewells tripping over themselves on his tongue.

Only…only Bucky was following him, sticking close, fingers curling harshly into the thick material of his uniform, digging into his chest, pleasure chasing the pain.

Together they stumbled in a drunken, lust-clumsy dance across the thankfully empty street and into what must have been Bucky’s ultimate goal – an alcove, the corners of which the streetlamps didn’t penetrate. The closest thing to privacy they were likely to find. The functioning part of Steve’s brain was impressed that Bucky a) had the wherewithal to conceal their activities, and b) had noted the dark corner.

The army might very well have missed out on a potentially great tactician.

At least he thought that until Bucky’s teeth closes around an earlobe and bit down, just a hair too hard, a shiver coursing down his spine and flashing out over his skin.

“Pay attention,” Bucky growled, his breath warm and moist before he pressed a kiss of apology beneath Steve’s ear.

Steve’s answer was to push against him, blanketing Bucky’s body with his own, rubbing himself against Bucky with languid rolls of his hips, deceptively lazy and unhurried as he left kisses on every piece of exposed skin he could find.

“Want to fuck you,” he whispered, voicing what he’d desired from the moment he’d entered the pub. “Want to watch you ride me, want to push up into this tight ass.” Steve grabbed handfuls of said ass and squeezed meaningfully.

Steve pulled his head back just enough to watch Bucky’s face as he pondered it. For all of two seconds before he kissed Steve again, deep and long, thrusting his tongue into Steve’s mouth, teasing at his tongue as strong hands settled on Steve’s hips.

“Let’s go.”

“Yeah?”

“Yeah.”

Steve kissed Bucky’s neck, tugging on his shirt, grin growing wicked as one hand slid around Bucky’s hips to cup his crotch, laughing at Bucky’s gasp and thrust against the palm pressing against him.

Steve didn’t look up from where his hand was rubbing against the head of Bucky’s cock, feeling the weight of it, the heat of it. Bucky swore softly as Steve shifted them further back into the alcove,
letting his thumb rub over the head of Bucky’s rapidly filling shaft.

“Can’t wait to see it. See you give it all up for me.” Steve felt something uncurl in his belly, a warmth flooding his groin. He couldn’t remember the last time he’d gotten so turned on, been so hungry for it, for the man in his arms.

A soft desperate moan from his own throat, and as though it woke him, Bucky came to life, dragging Steve tight against him, one hand dropping to grab a handful of Steve’s ass, the other burying into Steve’s hair, using the grip to guide Steve’s mouth back to his own.

“Yeah,” he whispered, trying to thrust against the hand trapped between them.

Steve moved his hips back, not letting Bucky just take what he wanted, gentling the movement of his hand, playing his fingers over the swollen flesh, torturing his new lover.

“Fuckin’ tease,” Bucky gasped, taking Steve by surprise by spinning them around and pressing Steve into the bricks, looking up at Steve through his eyelashes before, with a wink, dropping to his knees. Steve didn’t even try to regain control, instead choosing to watch, slack-jawed and desperate.

Bucky didn’t waste any time, fingers working at the fastenings of Steve’s uniform, movements jerky and yet efficient, Steve doing his best to help by wriggling his hips, uncaring as to what stains that might besmirch his uniform from whatever substances were on the wall behind him.

“Teach you to fucking tease, Captain America,” Bucky grunted, before opening to him, mouth hot and wet, soft and tight, taking Steve deep in one fluid movement.

“Oh, fuck!” Steve’s hands scrabbled over Bucky’s shoulders, hips driving forward, all control lost. Bucky hummed his agreement, the vibration feeling as though it was melting Steve’s spine and his hips jerked again. Bucky responded by only taking him deeper, relaxing his throat as Steve pushed forward. Bucky only encouraged him, hands on Steve’s ass, pulling him, guiding his rhythm and speed.

Bucky, to his credit, didn’t play games, didn’t tease, just sucked harder, tongue and lips and throat working Steve hard, his own hips thrusting against air.

Steve could feel it coming, his balls drawing up tight as Bucky’s tongue moved faster and harder, and then there was no stopping it. Steve’s orgasm felt like it was coming from the soles of his feet, but still he fought against it, willing it away for just a little more time, just a little more of this, but Bucky’s mouth was unrelenting, hands sliding over Steve’s ass, stroking his balls, calloused fingers rough on sensitive skin, searching, pressing, teasingly close to Steve’s entrance.

Bucky didn’t hesitate, didn’t equivocate, just pushed the tip of two fingers into Steve, and spread them –

Steve woke, belly wet and cheeks wetter, chest burning with the shame of missed opportunities.
Figured it out.

Because I’m the motherfucking king.

The very first thing I packed for this trip was my full kit and tools.

All of ‘em, which means I got a shit-load of stuff to work with.

I needed to devise a way to not only track the wattage but also the time of day, so I turned my bedroom into a workroom and MacGyvered my way out of yet another problem.

Remember the cameras on our suits?

For those that don’t, there are two – one on the faceplate, one on my right arm.

Everything they record is timestamped.

I’m gonna embrace my inner filmmaker and go all American Beauty and record the cells. I brought Steve’s suit as a spare, so I’m stealing the camera’ from it. Which actually took longer to do than it did to come up with the plan.

It’s my only spare seeing how I had to remove the spare from the port on the rear of the rovers so I could pack more shit on the flatbeds, and I gotta be fucking careful.

You’re gonna ask why I didn’t bring ‘em all.

Have you missed the million and one times I’ve bitched about how fucking big they are? How much room they take up?

Where the fuck was I gonna put ‘em? Even fitting one spare was a struggle, and that was suspended from the roof in the hatching I’d created for the aborted solar panel packing. Creepy as fuck, having a hollow roommate.

I got some empty plastic sample containers, and placed a power meter into each, duct-taping them to the base, and stuck the cameras onto the lids – and didn’t that take a fucking tonne of time to get the alignment right? – and then sealed them all up.

Worked perfect.

The power meters will run off the solar cell they’re monitoring but it’s such a negligible amount that they’ll need that it won’t affect the readings, and anyway, each cell will have one attached so they’ll all experience the same amount of power drain from the meter, so it’s not a problem. I’ll wire a small battery into each one to power it overnight when the solar cell won’t keep it alive.

But Bucky, what about keeping them warm?

I didn’t forget.

If the camera – used to being kept warm as part of the suit - and power meter – not designed to be left on the surface for a sol - get too cold, they’ll fail, but I ain’t exactly flush with mini-space heaters or RTGs.

Actually…technically, if I cracked open the RTG one of the pellets in each box would work, but remember the whole box of cancer thing? I’m looking to actually survive this trip and besides, short of a bomb, I ain’t getting through that casing even if I wanted to.
And I don’t.

So, I turned back to my kit.

Resistors.

Handy little fuckers to have. And I got a bunch of ‘em.

How is it gonna work?

Ever wondered how your electric kettle works? Or the electric fire that got my ass whooped when I bust the shit out of it?

No?

Too bad, you’re gonna learn.

When electric current flows through a resistor, some of the energy is transferred to heat energy. Badda bing, badda boom, the resistor gets hot and heat is emitted.

Run the energy from the solar cell through ‘em and they’ll warm the container up, keeping the camera and power meter happy.

Betcha you’re all impressed huh?

If not, why the fuck not?

What’s a guy gotta do to get some applause from you people?

I put together the logging systems, and wired them both up to a cell each and left them outside for a couple hours as a test.

Now you gotta be impressed – they worked perfectly.

Which is a good fucking thing. Today’s decline in output was up by 50% to 4.5%. At that speed within sixteen days, the cells will fail to provide enough energy to keep the LSD singing and then the fat lady will take over the singing and that’s all she wrote.

Good fucking thing I’ve got a plan to get the fuck out of here and away from the red death.

Clint woke to Valkyrie’s equivalent of night and glowered at the ceiling as he debated with his bladder as to just how full it really thought it was. He lay still for a moment, letting the familiar, comforting lights of the various devices in Nat’s – their – room dance and flash around him as he cursed his bladder, pushing away any thoughts as to his oncoming birthday and jokes about ‘old man’ from Sam, which was fucking ironic seeing as how the guy was even older than Clint.

Dragging some of the blanket back from where Nat had burrito-ed herself, Clint wriggled over onto his side and resolutely closed his eyes again, determined not to cave to yet another long walk to the bathroom. But five minutes later sleep was still eluding him, and his kidneys had betrayed him by filtering even more of that coffee he’d just had to have last night into his bladder and it was a lost
With a sigh, he pushed back the blanket and swung his legs out of bed, stumbling to the door with all the grace of a newborn colt. He was shuffling back from the bathroom, eyes half-closed and still mostly asleep when he realised he’d detoured towards the Rec Room, body on auto-pilot heading for a breakfast he was several hours too early for.

Figuring he’d grab a fresh bottle of water, because why learn from late night liquid mistakes, Clint made his way up the final corridor towards the kitchen, he noted the light on in the gym.

Swinging himself around the doorframe, Clint took in the scene. At the back of the room hung the heavy bag he’d had had to fight so hard for, the leather weight swinging gently in its chains, one side split open several inches, a trickle of sand spilling forth, the movement of the bag painting a wave of sand across the floor like a child’s gyroscope.

To the side of the bag Steve sat hunched over, head bowed, his knuckles split and raw, blood smeared across his hands and up his wrists where his hands curled where they hung between his knees.

With a sigh, Clint shook his head and turned away, heading towards the MedBay. Dropping the water bottle onto the side, he busied himself in compiling a tray for the morning. Either Steve would let him bandage him up, or the guy’d do it himself, but if he wouldn’t accept comfort, then this was what Clint could offer. Antiseptic wipes, numbing gel, steri-strips, gauze, tape…it all went on a tray that he slipped beside the gurney.

It felt like hours that he puttered around in there, waiting for his friend to come fix himself up, but he wasn’t going back to bed without ensuring Cap was okay, at least physically. He didn’t know what had so devastated his friend, but he could guess what it was about.

Log Entry: Sol 478

Suspicious of Mars again.

Today went perfectly. I wired up one cell to its logger and then left it to its own devices. Good thing nobody is around to steal it. If I tried leaving something around in some of my old neighbourhoods and it’d be gone before I turned around. Even if it was chained to a tree.

I really liked that bike.

But nobody is gonna steal my cells, unless fellow Space Pirates come along.

I drove the planned 40km due south and dropped off the other cell/logger combo and then carried on to my new camp, a little hollow, surrounded on three sides by boulders, looking almost like a sand trap in an enormous game of golf.

Which is a stupid fucking activity by the way. And that’s not because I played against Clint.

Shut up.
I can’t tell if it’s darker the further south I go. One minute I think it is, then I think it’s not and I’m driving myself crazy. Your brain works really fucking hard to ignore slight changes around you, it’s filtered out as irrelevant. It’s how I wasn’t aware of the storm in the first place until I really focused.

You know when you get your eyes tested and the optometrist is holding that little lens thing over your eye and asking you if you can read the letters clearer with lens 1 or lens 2, and you literally can’t tell the difference and they’re asking you over and over ‘lens 1 or lens 2’ and you don’t even know if there’s supposed to be a difference and you feel like a fucking idiot because you can’t tell?

This is the Mars equivalent of that.

I spent way too long spinning around in my EVA suit, trying to determine if one direction looked darker than another.

I musta looked like a dreidel.

I musta looked fucking stupid.

Didn’t get me anywhere. I don’t even know why I tried – the loggers are gonna do their thing and I’m gonna get the info I need. That won’t be subjective, that won’t be reliant on me squinting and acting like a lunatic.

It’ll be beautiful hard science in all its glory.

Tomorrow I get to do it all again – minus the spinning top impression and backtrack to pick the cells up again, into a known storm area, but it’s important.

But today I had a good day.

Why?

Because I ate a real meal for the first time in 29 days. I’m fucking sick of potatoes. The humble potato has been ruined for me up here in Idaho North. I’m gonna miss French fries when I get home, but that’s okay, I’ll just eat more pizza.

‘Cos I never wanna see a fuckin potato again.

Let alone eat one.

But I didn’t eat the food-pack I’d saved to eat when I got halfway to Schiaparelli when I actually got halfway, which was nine sols ago.

No time like the present!

God it was good. I threw it into the RTG box to heat up – c’mon, what’s the worst that can happen to me? – and dug in. Next to plain potatoes, the normally bland and strange food-pack became the most delicious thing I’ve eaten. Salt, flavour, no mushiness…god it was good. It had me eyeing up the god-damn other three packs but I resisted.

They’re earmarked for other momentous occasions on my journey.

Besides it’s probably more accurate that I eat it now, technically late, because who knows how many more days I’m gonna be on the road than I thought.

If the storm does take me, those other three food-packs are mine.
Last meal baby!

No matter which direction he went in, the Traveler kept returning to the same place. Every time he set out, no matter the path, be it rutted or smooth, dark or bright, he found himself back beside the same ragged outcrop of boulders and wind-smooth dunes. He ran and ran and ran and made no progress. The red-tinged darkness pressed closer, the swirling wings stealing the breath from his lungs, any cry for help streaming away in silence beneath the roar, the dust robbing him of his sight, and yet still, somehow, he always saw those boulders, felt the same rocks beneath his fingers, the engraving he’d carved into one side after the twentieth time he’d found himself back in the same place. The winds whipped his hair across his face, pushing him from all sides until he stumbled, fighting to regain his feet, to peer through the sand and dust and dirt that swirled around him, but could see nothing but red.

There was no escape.

There would never be any escape.

He was going to die there.

The Traveler crumpled to his knees, the sand soon covering his thighs, and wept.

Log Entry: Sol 479

Waking up dripping sweat and immediately vomiting seems to be a much greater component of space travel than anyone in Houston bothered telling me.

The human mind is an amazing, and incredible thing. Its work got me on this rock and hopefully it’s gonna get me back off it. We’re ignoring that it’s also what got me left here, but that ain’t important right now. But the human mind is also an asshole.

I coughed bile, some undetermined chewed up mush, and stomach acid onto the floor, until there was nothing else in my stomach. The stench of it left me heaving for several minutes, too weak from the sudden wake-up call and fear to drag my decreasing ass away from the mess. Every time I thought I’d calmed down, got my heart to slow from vibrate to pound, a flash of red and swirling sand imprinted on my eyelids and the whole cycle started again, until tears burned hot and my vision blurred, the quivers in my muscles becoming all out shaking, the sweat beading down my back soaking my shirt to my skin.

Fuck this shit.

Back home, even with some of the shit I saw in my work with the Peace Corps, nightmares were rare. There were a few years after my dad died that I had them weekly, probably fed into my anger and my minor foray into juvenile delinquency. But for years, the worst thing I had was a semi-recurrent nightmare in which I had chosen to do French at college and my old French teacher, Sister Theresa, was my professor.

Talk about waking in a sweat. Ain’t nobody likes nuns, they make you feel guilty and nervous and
judged, but Sister T was a whole other level. She *hated* me, for a start, and refused to comprehend that just because languages were easy for *her*, that my ass struggled like fuck.

Like I said, ain’t nobody like nuns.

So that was a waste of a food pack, in the end. And twenty minutes of cleaning up projectile vomit out of my tent. At least I can air that out. If it was in the rover, I’d be left with the smell – too much important shit that ain’t able to survive vacuum in there to be throwing open the airlocks now.

All of which slowed me down this morning.

Even though I know it’s important, and likely because Nightmare-paloosa ruined my fuckin’ mood, I fucking hated having to drive back to get the cells. I know it’s not a waste, per se, intellectually I know that it’s really fucking important, but backtracking isn’t what I wanna be doing.

I’m now back to original camp where I figured out I was in a storm and I’ve uploaded the videos from the loggers I left littered across Mars.

Think I’ll get a fine for it?

I did pick ‘em up again.

According to the data the cameras recorded, as of noon yesterday the northern most logger – ie the one that relates to where I am now – showed a jump from 3% loss to 12.3%.

In a fucking sol.

The middle cells had 9.5% efficiency loss and the lower one, where I was camped out last night, had 6.4%. So the storm is traveling west, along a path from southeast to northwest.

Fuckin’ right!

I wanna go south. The best way to avoid the storm is to go south.

 Fucking hell, finally some good news!

Even if I have to fucking drive the same path for the third time tomorrow.

Totally fucking worth it.

““What’s he doing?” Rhodey asked as he scrolled through the images from the previous two Sols, squinting at the screen. “Are those solar panels?”

“I think so,” Kate answered, lounging in her chair, no longer so intimidated by the presence of the Director.

“Why?”

“He’s not left a message today, but my guess is that he’s trying to determine the speed and direction of the storm,” answered Mack from the doorway. There wasn’t room for all three of them in the tiny closet-sized excuse of an office that Kate called home.
Especially not Mack and his *impressive* shoulders. Which were attached to his impressive arms. Aaaaand Kate was off-track.

But *what* a track to go down.

“He’s measuring the efficiency of the cells?” Rhodey guessed.

“That’s what we think, yeah,” the meteorologist nodded.

“Smart.”

“If that is what he’s doing, he’s gonna figure out the best way to run is south.”

“Just where we want him to go,” Kate finished.

“Let’s hope that’s what he’s doing. He left any messages at all in the last few days?”

“Nope, but I’ll keep checking for one.”

**Log entry: Sol 480**

After a day of driving playing ‘*where have I seen that rock before, oh right the last two fucking days driving*’, like the bitter shit I am, I’m back to the campsite from yesterday.

Since I was last here, the efficiency loss has spiked to 15.6% but that’s better than the 17% at where I was yesterday so tomorrow, when I finally start making some actual headway for the first time in sols, I might start to actually get away from the thing.

Chances are pretty good that the storm is roughly circular. Storms tend to be – gotta love physics even if Saturn doesn’t obey “em – but it could have irregular edges, little mini-storms hitching a ride on the outer edge that fuck up the shape, alcoves…

The list goes on.

But I can’t tell that.

I can’t.

And I gotta let it go.

I gotta just hope it’s circular and keep going. If it isn’t, there’s no point worrying about it. It’ll circular or it’s not, it’ll kill me or it won’t.

Gotta love that optimistic streak, right?

The further south I go, the more efficient the cells get and the more efficient they get the further from the storm I get. They hit 100% and I’m away from it and can get back onto the perfect path to Schiaparelli.

*I want* to be going southwest but at the moment I’m going due south so eventually I’m gonna have to
hang a right and head off southwest but that’s gonna lengthen the journey because of the increased distance.

I gotta get to the MAV with enough time to carry out the modifications it needs, and I don’t wanna rush those too much. That fucker’s gotta survive in space. I gotta survive in it.

I wanted to get there for Sol 495.

That plan’s fucked.

I gotta get the mods done by Sol 549 when my crew is coming back for me.

Good thing I added a little time to my journey estimate. Even if I’m a few sols late I’ll still have enough time to make the necessary alterations.

But only a few sols. Anymore than that and all I can do is wave as Valkyrie flies by.

Then I’ll die.

I hate this planet.

"Your boy is a lot smarter than I'd give him credit for, you know."

Steve's upper body was obscured by the access hatch he'd somehow squeezed his shoulders into in an attempt to replace faulty wiring causing lighting panel 12 to misfire.

There was a thud and a muffled curse as Steve jerked upwards, banging his head into the panel he was repairing.

"What's happened?"

"Bucky's officially the opposite of storm chaser."

There were more inaudible curses as Steve wriggled free in a series of moves that had Sam wishing he had a camera to film it. America, the world, saw Steve as Captain America, as some great graceful hero, a symbol, more myth than man. The Army, and later NASA, had willingly fed into that legend, aiming to turn Rogers into more showgirl than soldier, but the reality was far different.

The reality was a man that smacked his head in small spaces, couldn’t flirt to save his life, had no clue what size to buy his clothing in, and didn’t so much dance as though the left hand didn’t know what the right hand was doing, but rather that the left hand didn’t even know there was a right hand.

Not the performing monkey the Brass had really longed for.

"You about done here? It's lunch time and Thor's challenged Clint to a rematch. Could be pretty entertaining."

"How'd Clint ever convince Garner to let him have that?" Steve scooted further out of the access hatch, sliding out his tools and placing the grate back into place before he reached a hand up.
Sam clasped his hand around Steve’s wrist, too wary of the still healing scrapes and welts on Steve’s knuckles to grasp his hand, and tugged the Commander to his feet. He didn’t know what the midnight heavy bag session had been about after finding Clint duct taping the shit out of punching bag, and wouldn’t pry but Sam had noted that Steve had taken to obsessively carrying his tablet on his person, whereas more often than not even a few weeks previous, he’d be found wondering where he’d left it. Even now the device lay atop his toolkit, screen black bit the little power light winking periodically as Sam looked it over, the object the first thing that Steve grabbed and stuffed into the large breast pocket of his jumpsuit.

"Once Barton conceded to sucker darts, Garner thought it’d be good for morale."

"Clint's maybe," Steve grumbled as he gathered his tools together.

"Aww, you still pissed he beat you?"

"He beat you too you know."

But I know I let him win."

"Sure you did, flyboy," Clint laughed as he went by. "Sure you did." Clint cackled as Sam flipped him off, though there was no hint of real annoyance on his face.

“Odinson! You ready to get your ass beaten?!?” Clint hollered down the hallway, trailed by Sam and Steve.

“Know what you’re doing. You and Natasha,” Steve whispered to Sam.

“Don’t know what you’re talking about,” Sam grinned, pushing Steve into the Rec Room, directly into the line of the shot Thor was taking as a warm up, the dart bouncing off Steve’s cheek.

“Bullseye!” Clint whooped.

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**Log Entry: Sol 482**

Even though I wanna make up as much time as I can, I can’t not stop for an Oxygenator day. I’m keeping away from the storm, just, but the cells still aren’t up to 100% yet and though I’m still making a decent amount of distance traveled, because I’m having to go south and then southeast rather than a more direct route, rather than traveling 90km towards Schiaparelli, I’m doing that distance, but only actually getting 37km closer to it every day.

*Pythagoras* was an asshole.

I wonder what NASA is thinking about my progress. Are they freaking out, are they screaming at their screens for me to go another way, are they happy with my plan, have they figured out how to get the MAV outta atmo…

Not that it makes any difference, but I wonder. They always had something to say about my *excellent* botany skills, so I feel pretty confident in thinkin’ some asshole is correcting my work every second of the day.

But they’re no longer the only ones watching me. There’s probably a few people watching me...
online.

Bet they know how big the storm is.

I fucking am The Truman Show. Just with more potential death. That’s kinda fucked up.

Know what’s worse?

There are probably betting shops with odds about my survival, people betting on whether I die or not, how I die, what shape I’ll be in if I’m rescued.

How fucked is that?

I’m a human being, not a machine, and they’ll be sitting there on the edge of their seat to see if how I croak is gonna pay for a new car.

But Vegas is gonna be on fire with this shit.

I know there are a lot more good people than the assholes, the people that sent me messages, the people that pray for me…but I just hope none of the assholes are around my family.

Becca’ll break the nose of the first person to say a thing.

And the second.

And the tenth.

She’s got a real powerful right hook. I both taught her how, and ended up on the business end of that fucker. I just don’t want her to have to use it.

“You’ve made a breakthrough?”

As he always was, T’Challa was impressed with his sister’s laboratory as he stepped over the threshold. T’Challa had been a teenager when Shuri had been born, a miracle child long prayed for by his parents, and he’d been amazed by the sheer quantity of stuff that a baby apparently required, and as his sister had grown, her belongings only seemed to multiply. The queen used to joke that the maids wished to simply move Shuri from suite to suite rather than try to tidy around the detritus of chemistry sets and Meccano, the girl’s love of science evident from a young age. Her room almost always looked as though a tornado had torn through it, yet from the moment T’Chaka had relented and given the then seven year old princess her own set of rooms as a laboratory, her work space had always been pristine.

Over the years, Shuri’s workrooms had expanded to take over several floors of a wing of the palace, the room required for her experiments and advancements, but she’d always resisted moving her equipment to a facility outside the Palace, stating her short commute as the reason.

Okoye, the leader of the Dora Milaje, shot to her feet from where she’d sat with Shuri, their heads bowed over what, if he squinted, T’Challa could make out to be the blueprint for something sharp, and likely lethal, if his General’s usual preference for weapons was in play.
"My Lord," she began, "I was just-

"Improving upon her weaponry." Shuri sneered at the spear that Okoye held like an extension of her arm.

"There’s a problem?"

Shuri scoffed. "Things can always be improved upon." With a word to Shuri and a nod to her king, Okoye strode past the pair, leaving them to their discussion. Before T’Challa could fully investigate just what the two women had planned, the blueprint disappeared from the holo-table, the projection ending with a wave of Shuri's hand.

"Breakthrough?" T’Challa repeated when it became clear his sister would not be revealing anything about what Okoye had requested.

"I said that you needed to come see me to see what I’ve been doing so I can impress you with my genius."

"How ‘bout you tell me what you’ve done and then I’ll decide if I’ll clap for you or not?"

"Fine. But you have to fully appreciate how hard it is for me to do what is necessary with America’s antiquated technology." Shuri dismissively flicked at the scale model of the MAV that had arrived the day before from Houston, no doubt a gift from Stark, and watched it clatter to the floor. "It’s practically as old as-" she looked up with a smug smirk, "-you."

"You remember that I am your King, yes?"

"Am I meant to be impressed?" She never had been, either with his rank or abilities. As a sister, she was devoted to him, but seemingly lived solely to rip the shit out of him, or what she referred to as 'keeping him humble'. She deferred to his throne, but never to him.

"Some people are," T’Challa answered, crossing his arms over his chest with a huff.

"I am not other people, dear brother."

"I am waiting for the part where you tell me the good news. Or news at all."

"Now that I’ve finally gotten the schematics I asked for, I’ve been running an algorithm that should be able to flush out all the extra useless nonsense that weighs down the MAV, far more efficiently than the way NASA is doing it, and how to remove it without killing Bucky B."

"Is this the part where I applaud? Banner and his people have been working on it for weeks."

"My way is better! Besides," she put on her best American accent, "there’s more. The most exciting part is that it’ll provide even greater advancements to Wakanda’s own space programme applications in the future. How does that sound?"

"Sounds like you’ve put a lot of thought into telling me just how smart you are. But for once I believe you."

"Told you."

"At least we are giving Barnes his best chance and I’m sure that will make Rogers happy to hear."

"Ooh, can I tell him?"
“No.”

“Please?” Shuri turned huge eyes on her brother, but sadly for her that tactic hadn’t worked in over a decade, not since T’Challa had learned just how much trouble caving to his sister’s whims usually landed him in. It had taken him months to get back all the footage she’d taken of his practicing a speech he’d had to give.

It had been mortifying.

“Absolutely not.”

“I’ll tell Mama.”

“You do that.” T’Challa laughed as he left, only laughing harder at her protests that she could just hack into the Valkyrie at any time she wanted.

Log Entry: Sol 484

Fucking finally!

Fucking finally I’m past the storm.

I am the storm-runner!

Today the cells were back up to 100% power generation, there’s no more dust in the air and presuming the fucker is circular, I’m south of its most southerly point. So long as the big red bastard stays on its course and I stay on mine, we’ll be two ships in the night.

From tomorrow I can get back on track, heading back towards the most direct path to Schiaparelli, thank fuck, ‘cos I got time to make up.

I am way off course.

I think I managed to get about 540km due south in trying to outrun the storm and my calculations have me about 1030km from the MAV, and if I can keep to my 90km per sol schedule, I’ll only lose 7 sols, arriving around Sol 502, which will allow me 44 sols to gut the MAV.

I hope it’s enough. But I ain’t gonna dwell; today has been a good day. I’m south of the storm. That’s fuckin’ great.

Log Entry: Sol 487

The terrain down here is, frankly, shit.

Much as I wanna I can’t get swept away in my excitement about getting away from Storm Becca (if y’all knew my sister, you’d know why I called it that, and besides the first big ass storm that almost killed me was Storm Asshole and I’m liking the alphabetical thing) the terrain this far off track is all
kinds of fucked up and I gotta be careful. I was day-dreaming earlier and almost drove into a ravine.

That's a stupid way to die, in case you're wondering

Before you ask, no wasn’t fantasizing about that or him.

Honest. Swear on my Ma.

I was musing on how right now I have an interesting opportunity.

By which I mean Opportunity.

My little detour has placed me almost on course to intercept Opportunity at Terra Meridiani in about 3 or 4 sols if I deviate off track just a bit.

Hey, it’s another abandoned relic! I oughta start a club...but that might lead to me defacing more priceless scientific probes. For a glorified interplanetary handyman, I sure break shit a lot.

I swear, it ain't me. I'm just in the vicinity when shit goes down. I don’t know how it happens. Honest.

Except Pathfinder. That's my bad. Sorry guys. I didn’t mean to break your probe, I know ya’ll were so happy to get it back online. You did a good job building it, couldn’t have phoned home otherwise, but uh, I guess you didn’t factor in human stupidity.

It's fuckin' tempting. I can tell ya. I'd be able to talk to NASA, get my true location, get a course...

But I'm gonna be real; the true reason I'm tempted to go find it, is because I'm sick of feeling alone up here. Back when I got Pathfinder working, it was partially to hope they'd save me, but also so that I'd not be alone if I was gonna die.

I might die on the way to the MAV.

I don't wanna be alone if that happens.

Sounds good, huh? Take a little detour, rustle up some Wall-E goodness and make like E.T.

Well, it ain’t, no matter how tempting.

It’s a pretty shitty idea; it’ll take me about 4 sols to get it. But if I carry on my path, I'll be at the MAV in 11 sols anyway. I don't know if I can fix Opportunity. I don't know if it’s capable of the upgrade required to allow the rover and probe to talk to each other.

Why try to fix a broken decades old cellphone when in a few more days I'll be in possession of the equivalent of an iPhone XXV.

Apple wishes they had the sorta shit we got.

Log Entry: Sol 487 (2)

I’m guessing the hydro-geology dorks back home are practically wetting their pants with the need to tell me to run tests aplenty while I’m here.
Why?

There’s a reason Opportunity was dumped in the area of Terra Meridiani. It’s chock for of vitamins and minerals. Or more precisely, one mineral in particular. Grey hematite. Back on Earth, the mineral generally forms in the presence of water. Liquid water.

Never been so glad not to have Comms. I ain’t doin’ any digging I don’t have to.

Log Entry: Sol 492

Y’know how I was all pleased about vomiting in my tent-room and not the rover, and how I’d fucked around with it to be taller and I was all pleased with myself?

I’m kinda over my tent-room.

When my little trans-Mars quest began, I had no problem with the palaver I gotta go through to get it set up and taken down because it attaches to the airlock. With it inflated, I can’t get out the rover unless I go through the whole close door, depressurize, crowd into airlock repressurize, fall into rover comedy routine.

I'm okay with that while I'm being a trucker.

But when I get to Schiaparelli, it's a whole different story. I got no choice on the road, but once there I'm gonna have almost another 50 sols doing mods.

By that point the tent, and its seams will have been stressed by pressure for 50 sols and the seams are the weak link. I don't wanna die because a seam popped after I get all the way to the MAV.

Would ya look at that.

My optimism is back.

In full force no less.

I just talked about when I'd reach the MAV.

Fuck me.

I actually think I can do this.

It’s nice I’ve got confidence in me.

Someone's gotta.

Anyway.

Y’know what’s got two airlocks and no seams?

Rovers.
I’m gonna move my shit into the Funvee once I get to the MAV.

That’s right, I’m gonna Occupy Schiaparelli and leave the tent out. It'll lessen the pressure on the seams. But I don't have a handy third airlock, I only got the ones on my convoy. And unlike my old friend Airlock 1, these are firmly in place.

So, the ten can't get it its own airlock.

What it can get is sealed.

The airlock attachment on my bedroom has a flap that can be unrolled over the opening and sealed, in case - back when it was attached to a rover as an emergency measure - the rover it was attached to was compromised and the tent needed to seal off everyone from the joys of vacuum.

Of course because it's an emergency measure, it's a one and done thing. It seals the rovers occupants safely inside until rescue.

But I have a plan.

It ain’t gonna be a bedroom, it’s going to be the Life Support Duo’s personal gentlemen’s club.

Then I’m going to take the trailer as my bedroom. The canvas rag-top has given it a lot more headroom, so I can stand and ripping the guts out of it has given me a lot more floor space too. It ain’t as roomy as my mini-Hab but it’ll more than do.

I can do it, because I looted those pop-tents for all I could get, remember? Including the patches of canvas with the valve apertures. I was real careful to keep ‘em. I can put the Life Support Duo into the bedroom, seal ‘em in, and attach the bedroom to the trailer through the same sort of hoses that connect the two rovers, and that’ll feed the atmosphere into the rovers. I can feed a power line down one of the tubes to give them the power they need.

That gives me the entire trailer as a bedroom/workshop space.

Of course if I have to get to the Life Support Duo for some reason, I’ll have to cut my way in, but I’m okay with that.

Bet the engineers who designed this stuff are weeping into their pillows at what I’m doing to their creations.

Or bragging to all and sundry about just how fucking awesome their tech is.

Maybe both. If I get to be a complex guy, then so do they.

Thanks guys, you’re saving my ass right now.

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**Log Entry: 497**

This time tomorrow I’m gonna be at the entrance to Schiaparelli.

Can you fuckin’ believe that?

Because I can’t.
In a sol, I’m gonna be at Schiaparelli.

In a sol I’ll have travelled more than 3,200km across the face of Mars.

In a sol I’ll be at the MAV!

If you think I was cutting a rug around the rover, breaking out some of my best moves – somewhat dulled by the fucking suit and a lack of co-ordination I’ve decided to blame on exhaustion rather than imminent starvation because denial is more than just a river in Egypt – then you’re damn fuckin’ right!

You know how I said I thought Oxygenator days were gonna be fucking boring but actually I really liked them and enjoyed my little breaks from driving.

Not this Oxygenator day.

I wanna be in Schiaparelli already.

Hence some of the dancing. I needed to get my ya-yas out.

Of course once I’m there I’ve got another 3 sols drive to the MAV, but come on! The psychological boost of being in the crater, being so fucking close…

I can almost taste it, that’s how close I am.

62km and I’m there.

And here I am, fucking cooling my heels like a slob.

But a guy’s gotta have oxygen I guess.

Tomorrow I’m gonna reach (Barnes) Entrance Crater, where I’ll turn towards the south and boogie my way on down the Entrance ramp into Schiaparelli basin. The ramp, unlike the some of the ones I’ve seen on my little safari, is supposed to be pretty gentle. According to some hasty maths based off the change in elevation from rim to basin bottom – 1.5km – and the length of the ramp – 45km – this should be nice and slow, somewhere around 2° grade.

Tomorrow I’m gonna take the plunge.

That’s not a good idea, actually.

Okay, uh, tomorrow I’m gonna hit the rocky road.

Huh, not better.

Tomorrow…

Tomorrow I get to the good stuff.
For millions of years the winds had attacked the rim of Schiaparelli crater, battering and caressing the edge in turn, seeking a weakness to exploit, a way in. It took aeons, the wind patient as a coursing river, nibbling away at the rocks, smoothing them, wearing them down, just waiting.

Unlike the lone Traveler that would not appear for tens of millions of years, the wind had all the time in the world.

It could wait. It could be patient.

Eventually, this paid off and a weakness appeared, a breech forming in the wall.

Like a river widening its bed, the wind dug deeper and deeper into the little breech, broadening it and carrying dust and particles to drop into the basin below, creating a sharp ramp which over time lengthened, becoming far less acute with every passing millennium.

It was this that the lone Traveler knew as Entrance Ramp.

Gravity played its part, the ramp compressing over the years. But not evenly. The ramp was made up of a variety of different materials and the differing densities compressed at different rates. In the time it took some to harden to rock, others were still powdery as snow. So while the slope itself was gentle in its incline, it was treacherous in its own way, bitterly uneven and deceptive to the eye.

Once he reached the Entrance Crater, the lone Traveler turned due South, edging his vehicles towards the Schiaparelli Basin, towards the ramp that time and wind had created, the rough terrain unexpected but no worse in appearance than what he had already traversed.

Despite his extreme excitement, the Traveler was careful. Slow.

The Traveler was circumspect and rational.

It would not be enough.

The slope seemed ordinary. It seemed stable.

It hid a ridge the Traveler could not see.

Dense, hard packed soil gave way to soft, powder.

The rover’s left front wheel sank deep into the dust, the right rear wheel lifting clear off the solid ramp due to the shift in weight, the rover lurching even further forward, the sunken wheel kicking up dust as it sought for purchase.
This placed more weight onto the left rear wheel, which skittered sideways under the increased load, losing what grip on the soft powder it had.

Before the Traveler could do anything about it, the rover had rolled onto its side, scattering the solar cells it carried. The trailer, attached as it was by a clamp, had no choice but to follow suit, before the torque snapped the connection, separating the vehicles, leaving the rover without an anchor, setting it rolling down the ramp, overtaking the lead vehicle and only avoiding crashing into it by inches.

The hoses sharing atmosphere between the vessels snapped, the valves in the snapped hoses recognizing the dropped pressure and cutting off any escape of atmosphere in both vehicles.

The trailer, now completely free of the rover, picked up speed, bumping and rolling its way down the slope before it encountered a hollow, momentum halted as the front left corner of the vehicle dropped and jammed, the rover flipping over onto its back and came to an abrupt stop.

The rover continued to silently roll down the ramp, the Traveler thrown violently inside.

It came to rest on its side halfway down the slope.

Within, the Traveler was alive.

For the moment.

Chapter End Notes

Yes it's short, no it won't be the only chapter posted this week. I've decided I'm not quite THAT mean
Chapter Summary

With the convoy in danger, can Bucky get everything back on track to limp the last 220km to the MAV?

Log Entry: Sol 498

Video Log

Like I said, space travel involves way more projectile vomiting and headaches than expected.

Fuck me.

It was as I was thrown around like a fuckin’ ragdoll that I flashed back to being an AsCan. We had these Ten Commandments of Astronauts drilled into us by Colonel Philips – big fan of drills was Philips.

Number 4 was 'never complain; make survival look easy.'

Guess I've fucked that up.

So of course I did what any sensible guy would do when his head is being slammed into the dashboard of his hella expensive ride as he rolls ass over tit down an unexpectedly steep incline.

Laugh maniacally as the world span, deafened by the commotion of my escape plan screeching and scraping to a halt.

“Anyone know why we’re here?” Tony asked the assembled department heads. “It’s not Project Elrond the Third, is it? You know how I feel about sequels.”

“God, I hope not,” muttered Pepper, “I can’t take the stress anymore.”

“Or the rant about how they never equal up to the original and are blatant money grabs by studios,” Bruce muttered darkly.

Tony scanned the room; next to Pepper, Bruce sat with his hand on his hand, half-asleep, but he looked better, less pale, the bruises under his eyes less pronounced. Now that the Kimoyo Prime had been successful, he was potentially getting a little more sleep. He might even have been in his own bed to get it.

Rumour was, however, that he’d actually seen his wife.

He still hadn’t shaved, but then maybe miracles did cease.

Then again, the MAV modifications still hadn’t been finished, so maybe the big-guy had just moved
Rhodey was next to enter the room, a pile of files under one arm, and with Kate at his shoulder. He was deep in conversation with the little space-spy, and whatever they were discussing had Kate vehemently disagreeing, gesticulating wildly while jabbing at a paper in her hand. The pair didn’t appear to notice the other occupants of the room, sitting at the top of the table, heads bowed together.

“A-ha! I spy cahoots. You two know what’s going on, and you’re not sharing!”

“Of course they know,” Bruce grumbled into his hand, used to Tony’s reaction to anyone that took Rhodey’s attention from his best friend, “they called the meeting.”

“Katie-Kate has the power to call a meeting?”

“Tony, shhh, I’m trying to sleep.”

“Aren’t you curious?”

“I’m too tired for curious. Besides, every time they call one of these meetings, it’s always because something’s fucked up there. So, something is fucked up there. Just got to wait to find out what.”

“He has a point,” Pepper agreed.

“Spill it, Bish. Whatever it is, spit it out. Otherwise you’ll have to explain the whole thing to Jolly Saint Nick,” Tony waved a lazy hand at Fury, “and you know how he gets about bad news. He might cry and everything.”

“Uh,” Kate prevaricated, shuffling her notes, glancing at Fury over the pages. “Well…”

“Kid, nobody is going to be mad.”

Kate bit her lip, a hopeful gleam in her eyes. “You promise?”

“I promise.”

“Is it bad, Rhodey?” Pepper asked when Kate still hesitated.

“Yes, Doctor Rhodes,” Fury asked as he stepped into the small conference room and closed the door, “is it bad?”

“Kate?” Rhodey prompted the young orbital engineer with a not so gentle jab to the ribs.

“It looks bad. Super, super bad.”

“Good start, terrify us. Edge of our seats, really,” said Tony.

“Fifteen minutes ago, the lead rover hit what I can only assume was uneven ground. It rolled several times before coming to rest on its side, breaking the tow link with the trailer. Due to the forces acting on the trailer, it flipped, right over onto its back. So, uh, yeah, I guess ‘fucked’ is as good a description as any.”

“Fuck,” Pepper breathed as Kate pulled up the images from her laptop, projecting them onto the wall for them all to see, while Rhodey dispersed the files he’d carried between the group, physical copies of the images within. Using a laser pointer, she circled first the rover and then the trailer, and then the rectangular black marks that were the solar panels that had scattered around the downed vessels.
“That the whole site?”

“Yeah, I’m pretty sure. Both rovers, the solar panels…yeah, I think it’s all of it.”

“He alive?” Fury asked.

Kate shrugged with one shoulder, shaking her head. “That’s the rest of the ‘super bad’; I dunno. There’s no footprints around the rover so…he’s not come out.”

“Could he have survived it?”

“I’ve walked away from totalling my car,” Tony offered.

“More than once, if I recall,” Rhodey muttered. Both men shared a grimace remembering how the last wreck, the one that had heavily contributed to Tony’s sobriety, had resulted in a fractured spine and countless agonising surgeries, as well as years of rehabilitation, for Rhodey. It had ended his active military career, but despite the odds, only strengthened their friendship as Tony had turned up, day after day, to attend Rhodey’s sessions, using his extreme wealth to fund grants into research on spinal injuries, the devices created as a result going to help countless patients beyond Rhodey.

“Vessels still have pressure?”

Bruce perked up, looking mildly concerned as Kate shook her head and pointed to him. “Uh, I just know the images, I’ve said my bit. Ask him.”

“You’re very calm – she’s very calm. Why is she so calm?” Tony gesticulated wildly at Kate, nearly knocking Rhodey’s bucket of coffee over.

“Someone in the room needs to be,” he muttered, mopping at the droplets over his print out with the sleeve of Tony’s abandoned jacket.

“I have to be calm. I can’t keep heading to crazy town every time this fool does something suicidal. My car got towed and it’s a long way to go on just my bike. Then there’s what the heat and wind would do to my hair…” Kate petered out as she looked around the table at the faces of her colleagues.

“Never mind, carry on.”

“I’m not saying it’s not shit, but I don’t think it’s as bad as it looks. The rover and trailer were connected through triple redundant valves. When they separated, the valves should have immediately closed off. Theoretically the rovers are sealed.”

“Even the convertible?” Tony asked, wrestling the laptop from Kate and manipulating the image to get a better look, muttering darkly about Kate’s subpar OS.

“It’s not good that it’s on its roof. It could have damaged the modifications, but if that’d happened we’d be seeing disturbances in the sand around the trailer as the atmosphere venting. We’re not seeing that.”

Pepper sighed in relief, her shoulders losing a lot of the tension they’d held since she’d seen the images on the screen.

“The rovers are designed to roll. We tested that over and over, flipping them, rolling them, impacting them. They’re designed to cope with just this situation.” Pepper’s shoulder’s shoulders climbed right back up under her ears and she sat up stick straight.
“Barnes isn’t. He’s already had back issues and the problem with his arm. How many times can he survive getting thrown around?” Pepper asked.

Her question was greeted by unsure, helpless expressions and shrugs.

“Doctor Cho and Princess Shuri are running simulations now, as best they can with the information they have about Barnes’ known health and the likely forces he’d have undergone. We’ll have to wait until he surfaces.

The ‘if he surfaces’ went unsaid.

“When are the next images coming through, Miss Bishop?”

“I was taken off alignment of the satellites,” she answered, glancing at Rhodey, who raised an eyebrow at her, “and the orbits have been changed, so it’s another,” she checked her watch, “nine minutes until new images.”

“I want you ass glued to your seat, and your eyes on that screen for any sign Barnes is alive. You understand?”

“Yes, Sir. It’s not like I’m allowed to do anything else anymore.”

“Anyone else remember when she was shy?” Tony asked.

“Anyone else miss those days?” Rhodey countered.

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**Log Entry: Sol 498 (2)**

**Video Log**

Fuck me sideways. I’m pretty sure I know my tombstone’s new epitaph. ‘*Here lies James Buchanan Barnes, who once crashed in a crater much to NASA’s dismay.*’

Once upon a time, Dugan – with his usual tact and candour – told me that I wasn’t allowed to navigate any more on our European adventure because I ‘*couldn’t find my asshole with both hands and a flashlight*’.

Kinda harsh.

Safe to say I can find a fuck up without even having to look.

I love growing as a person. Gives me such a warm fuckin’ fuzzy feelin’.

More fool him, anyway. And he is a giant fool. And a tool.

I’m in the Basin.

I found it all on my ownsome.

Crashed into it like that, too.

Fuck me, what the fuck was that?
You know what pissed me off as I attempted to clamber out of where I've ended up squished in the rover?

I was the 17th person to walk on Mars, so had everything gone right, I was never gonna wind up with my gorgeous mug on the front of a Wheaties box. But now if I croak up here ‘cos I fuckin’ crashed my rovers and missed my ride, I’m definitely getting my face on something.

It better not be this motherfucking crater.

Maybe I should have named the little crater Barnes Entrance Crater – a Barnes just made a fucking entrance.

I’ve no idea what shape the rover is in, but the valves certainly work – I’m alive, so I definitely got air. Which is good, ‘cos I’m attached to this breathing shit I insist on, but it also means the junction between my convoy has snapped.

R2D2 is on its side and I can’t reach the computer to run a diagnostic, but I think the rover is okay, apart from the panels informing me that the rover is at an unacceptable tilt.

No shit.

No fucking clue about the trailer. After it disconnected anything coulda happened to it.

I’m okay though. I’m a fuckin’ professional at this being shot out a cannon shit. Soon as I knew what was happening I rolled into the smallest ball I could and just tried not to die until the rover came to a stop.

While laughing until I cried.

I might have lost all semblance of sanity right around then.

I’m not used to cowering and playing possum, but it fucking works. I’m okay. Or at least no broken bones and only minor scrapes. It wasn’t even that bad of a hit to my head. I had worse off this fat kid lived a couple blocks away on Delancy when I was at school. He was built like a brick shit-house and twice as stupid, but fuck he had a real haymaker when he got mad.

I’m bruised as fuck though.

Nothing was working quite right when I crawled out of my hidey-hole; my neck felt like jelly, barely able to hold up my head; my arms were like rubber bands as I tried to pull on my suit to head out and I had to give up; my chest was lit up in a blaze of agony from where I’d hit the dashboard; I must have hit my head doing the stop-drop-roll as my vision was shuttered down to a distant point, like I was trying to look through a peephole.

Fucking awesome.

Once I crawled out of the nook I’d gotten squished into I looked over my fallen kingdom through the small window between cab and belly of the beast; the interior of the rover looked okay, just a bit like a tornado swept through it. The water tanks stayed sealed – thank fuck given I ain’t got the Water Reclaimer with me – and the air tanks aren’t leaking – no Parseltongue goin’ on – and the bedroom canvas is all over the place but that’s okay.

I’m not too worried. I watched these rovers get flipped, crashed into, rolled, actually driven off the side of a ramp and crashed onto concrete. They survived. Intact and driveable. They’re like the Toyota Hilux of rovers. You can drive ‘em through a wall, set it on fire, drop it off a cliff…they’re
gonna drive away.

It’s a sight to see.

The solar panels however?

Not designed to get rolled onto.

I’m hoping that when the rover tilted, that they slid off or were thrown free of the crash area.

But we all know my fuckin’ luck, now don’t we? Seein’ as how I’m practically upside down in a crash site with no AAA.

And then there’s Life Support Duo, protected only by the canvas top. If that’s popped, they’re no longer in a pressurized vessel.

They need that.

If the top has been popped, then shit is gonna have gotten flung out everywhere in a recreation of Hab-splosion and I’ll have to find every last piece to try and assemble them again and pray they work. Yeah, the rover has a back-up life support – I removed the one in the trailer to get more room – but I really want the Duo up and running.

Why?

Because I got 20L of oxygen in the rover which is fine for about 40 sols but without the Regulator doin’ its thing, the rover is reliant on the CO2 filters. I got 312 hours of that left with 171 hours using my EVA suit filters. That’s enough for 20 sols – enough to hopefully fix shit but not enough to survive to intercept.

Remember the Oxygenator day?

Yeah, me too, given it was yesterday. I said I was so close to the MAV I could taste it. I’m 220km away. I’m fucking fucked if I’m letting this stop me from getting there.

I just need the rovers to get me there. Just 220 more kilometres. I just need the Duo to work for another 51 sols.

That’s it.

That’s all I want. I don’t care if the rovers fucking limp there, I’m fuckin’ getting there one way or another.

I’ve gone, in the space of twenty fuckin’ seconds, from the Fast and the Furious to the slow and screwed. Maybe even the fumbling and fucked.

Take your pick.

First step?

Gotta check the trailer.
Log Entry: Sol 498 (3)

It took me the better part of an hour to get my suit on, which included two breaks to vomit.

Yay, concussion.

Maybe I’m already dead and this is Hell. I’m just Sisyphus, cursed to push, and struggle, and get nowhere.

Now I’m getting flattened.

Lemme back it up a little and dial down my defeatist attitude. It ain’t like this is fucking with my likelihood of survival, I don’t know why I gotta be so dramatic.

Breath coming in short, pained gasps, nauseated and dizzy, I crumpled into a heap when I first got out the rover, which must have looked fuckin’ elegant.

Which was about what my chariot looked, too.

Things aren’t great.

But they ain’t totally shit.

3 solar panels are completely trashed. They might be capable of producing a few watts but they could be totally useless. I’ve never been more glad that I’ve got an extra cells than I technically needed so I’m only 2 cells down, and maybe I’ll still get something from the broken cells.

Given my luck?

I tried to embrace my inner Superman and push the rover over, but big shock – it didn’t work, even in reduced gravity. I’m gonna have to rig up something to give me more leverage to get it back onto its wheels, but apart from being on its side, it looks okay.

The tow hook is totally destroyed from how R2D2 rolled and the trailer did its own thing, but I can steal the hook off the back of the trailer and replace the broken one.

That’s one of only two good things I can say about the trailer.

It’s upside down, all its considerable weight on the canvas top. I had to cut the rover roof off because of the height of the Atmospheric Regulator, so it being on its roof, means that shit inside the trailer probably got damaged.

But, and here’s the second good thing, there’s no signs that the pressure compartment has been compromised.

Thank fucking god.

The rover is gonna be easy to right, but the trailer?

And I gotta get it back on its wheels ASAP because the longer the weight is on that canvas, the more likely it’ll pop like a balloon.

So that’s what I gotta do; get the Funvee back on its wheels, R2D2 onto its wheels, check over the Duo, change the tow hooks over…

This might take a while, so I better get started.
First I got my working 26 solar panels and hooked ‘em up. Might as well charge the batteries while I’m doing this.

Why the fuck not, right?

Second, I better make a quick message to NASA – they’re definitely shitting themselves down there if they’re looking at the crash site.

The moment the phone was picked up, Kate ran right over Doctor Rhodes less than cheery greeting.

“Rolled. Fixing now.”

“That is not a greeting.”


“And?”

“And what?”

“What else did he say?” Rhodey was definitely being condescending.

“That’s all it says. I think he’s keeping it short because he’s got a lot of work to do. That and there’s not a lotta rocks around him that are futzing big enough for writing messages with.”

“Nothing about his health? The rovers? The equipment?”

“Yeah, I’m sorry, he left a completely detailed dissertation, right down to descriptions of the bruises he got from his rock ‘n roll lifestyle, and every step he’s going to take fixing it. I just figured you’d not care.”

“You know a tech called Skye?” Rhodes asked, dry as a bone.

“Uh, don’t think so.”

“You’d get along. I remember the good old days when you were shy and goon-y and could barely string a sentence together around me. Those were great days.”

“What can I say? Now I got more time on my hands ‘cos I do nothing but stare at the top of a rover all day – though I guess staring at the wheels has been a change of pace - I’ve been listening to one of those motivational CDs about being more assertive.”

“Funny girl.”

“I try.”

“You’re certainly trying.”

“Aren’t paparazzi meant to be assholes?”
“Just send the email out?”

“Please, I already did.”

Log Entry: Sol 499

I woke up today to be assaulted by three unalienable truths.

1) Sleeping in a tilted rover is even more uncomfortable than normal, ‘cos I ended up crushed against a wall to stop rolling, especially after the adventure of yesterday.
2) My head feels like it’s going to explode.
3) I have to somehow bodily roll and/or flip two vehicles way larger and heavier than me without appropriate tools.

Individually, I think you’d agree they’re a pretty bad way to start the day, but collectively, they made my morning the seventh circle of hell.

I really miss coffee. Coffee would undoubtedly make this shit-show better.

At the very least, it’d improve my headache.

Fuck me sideways my head felt like it was gonna explode for most of the day. If I’m honest, I woulda been okay with it going badda-boom.

But I’m a motherfucking professional – mostly at fucking up rather than the astronaut-ing but still, a professional – and so I got a lot done today, despite feeling like a walking bruise.

Which means I really fucking miss my bathtub.

So with my morning potato, I took a Vicodin. I know I said I don’t like popping ‘em that often, and it may or may not be a good idea to take one with a concussion, but I got shit to do and I’m in pain. Needs must.

Then I spent ten minutes doing important work in regards to figuring out how to flip my convoy.

By which I mean lying on the floor willing up enough energy to be anything other than pissed off and mildly nauseated.

I know I said the trailer was my first priority, getting it back onto its wheels and getting its weight off the canvas but after looking it over yesterday, I’m not gonna be able to right it without the rover, I need it’s weight and leverage.

So I gotta do that first.

I brought everything I thought I’d need, not just for the trip but for being at the MAV. Once I get there – feel that optimism, baby – I’m gonna park their battered asses up, and then use ‘em, or more accurately just R2D2, as a conduit for my power via the solar cells.

Remember that big deal I made about getting as much shit into my convoy as possible?

This is why. My packrat tendencies are payin’ off in spades. Oh, yay.
So I could still use my drills on the MAV regardless of where I throw up my pitch, I managed to bring every inch of cable I could rip outta the Hab.

I dug out the longest cable I have, which incidentally was the cable that was powering the drill when I fucked *Pathfinder*.

Hope that my luck with it ain’t set in stone.

I wired one end into the battery, and the other to my drill and went and found solid ground as far away from the rover as the cable could reach and then drove a 1m drill bit into the ground, sinking it as deep as possible for the best hold.

Well, that’s the quick version of the story.

What actually happened was my falling out of the rover and then having to drag the drill after me, before heading back into R2D2 for one of Natasha’s sweaters that I’d been using as padding around some of my tools. After a few feet of walking cradling the damn thing like my first born, I discovered the reason for my Indy 500 impersonation – I sank into the dust up to my knee.

Which, as I wasn’t expecting it, means I went ass over tit.

With a drill cradled against me.

I *really* miss my bathtub.

And I’m real glad that Bishop girl is spying on my from a ways away, because the indignity of that ain’t something I could live down. A Barnes is smooth, graceful, and collected at all times.

Stop fucking laughin’ or I won’t tell you how I carried out the magic act of the decade.

Ah, yeah I will. I’m too awesome for you not to all revel in it.

Disconnecting the drill, I tied off the cable around the drill bit, leaving me with a taut cable connected from battery to drill.

But I need it attached to the rover, so I disconnected the far end from the battery and tied it to one of the bars on the rover roof.

You see where I’m goin’ with this?

Have you figured out what the sweater was for?

I’m gonna go ahead and guess that the answers are a resounding ‘*no*’, ‘*cos no matter how much I try to educate you assholes, you never appreciate it.

I walked back to the midpoint of the cable, I wrapped Nat’s sweater around it as many times as I could – god bless that woman for *finally* embracing baggy clothes – and then tied the arms together to form a pad that would protect my back from the cable and my suit from any sharp points if the cable breaks or unravels, turned my back to the cable, backed up until the cable ran tight along the small of my back – and wasn’t that a barrel of fuckin’ laughs as the cable pressed into a particularly tender bruise even with the padding so what the fuck would it have been like without? - gripped it tight by my sides and began to push myself backwards, slow but relentless.

I had to dig my heels into the ground, throwing my full weight backwards as I fought for every inch, but I kept sliding.
Fucking sand.

So I quit, ignored what my back had to inform me about when I released the cable and went to get one of the buggered solar panels, selecting the one most damaged. Y’know how your car gets stuck in sand or mud and you try and accelerate, only to make fuck all progress and just dig the hole deeper. Well, if you put a bunch of branches or a plank or even a whole bunch of rocks down, the tyres got something to grip and you get free.

Same principle here.

I dropped the panel lengthways behind me a few inches, and then tried again. The panel slid a bit, but with something to grip, my progress was much easier. Slowly the rover began to move, lifting off its far side and once it started to shift, it got easier until I could stop, letting the rover’s weight tip it back onto its wheels with a thump and a cloud of dust.

Fuckin’ right!

Physics is a beautiful thing when it ain’t fucking me over.

I clambered back into the rover, able now to reach the computer panels and kicked off a diagnostic, letting it run while I released the cable and hauled the drill bit out of the ground. I’m gonna need that fucker, I ain’t just leaving it behind as a testament to where I flipped my shit.

The system check came back, eventually, and my loyal rover was doin’ just fine after its impromptu crash. I’ve said it before but fuck me, the JPL guys know their shit when it comes to the rovers.

Thank you guys, you saved my life!

It’s a good thing I’m never gonna need to buy my own beer if I get back to Earth, ’cos I’m gonna be owing a shit tonne of it to the JPL crew.

Now I got the rover up and running, I can turn my attention to the trailer. The cable trick ain’t gonna work at all here.

And I’m in a crater.

Y’all don’t know why that’s an issue do you?

When the rover rolled, it went pretty damn far down the ramp, and the ramp is at the western rim of Schiaparelli crater. Which means the sun sets real fuckin’ early because I’m in the shadow of the wall.

Like ‘Norwegian arctic’ kinda early.

What am I bitching about now? You’re all sitting there thinking, ‘Barnes shut the fuck up, it’s just some shade’.

You really don’t listen to me, or learn, do ya?

Why do I even fuckin’ bother?

Mars ain’t Earth, remember?

It only has a 90\text{th} of the atmosphere and that’s important ‘cos it means there’s no atmosphere to bend the sun’s light and carry particles that reflect light around corners. Once the sun is blocked – like by
the fucking wall – it’s black here.

I’m literally in the dark.

There’s some light off Phobos because of how close it is, but Deimos is no fuckin’ use at all.

Basically I’m outta daylight and I ain’t quite stupid enough to try and flip the trailer in the dark.

I’m stupid, I’ll admit it. If I’ve learnt anything from my time here, it’s that I’m stupid as shit sometimes.

I ain’t that stupid.

Even Rogers ain’t stupid enough to try and flip a trailer in the dark. That’s how stupid it’d be to try.

I’m pissed I can’t try flipping it until tomorrow but it seems stable in there for the moment. Hopefully it can hold overnight. Besides, it’ll give me more time to figure out just how the fuck I’m gonna do it.

But the day does end on a good note.

The bedroom can be attached to the airlock again!

I really wish I had a microwave so I could heat up my T1000 gear.

My everything aches.

"Bagsie not it," said Clint as he read Natasha's screen over her show as she opened the first message downloaded in the latest data dump.

"Not it for what, Doctor?"

"Barnes’ rovers have crashed or rolled or something. They aren't in good shape. I don’t wanna be the one to break the news to Commander Pines-a-lot."

“And what of our beleaguered crew-mate?"

“Seems he’s okay,” Natasha said, “He’s righted the rover and got his tent set up.”

“The trailer?”

Natasha shook her head. “Still on its roof.”

Thor crossed his massive arms across his chest as his eyebrows raised. “Upon its roof.”

Natasha tapped a fingertip against the screen at the images that JPL had sent, the trailer’s undercarriage and wheels flashing in the sunlight.

“He has come through worse. We must have faith in our friend. I shall take this to our Commander.”

“You sure, buddy?” Clint asked.

“I will go.” Thor nodded and smiled. “We must take heart from Bucky’s determination; he will not
have travelled so far to be stopped now. This is not his end.”

Log Entry: Sol 500

Clean up aisle crater.

Like I’d hoped, the trailer is still stable, no evidence it’s popped like a balloon.

Thank fuck!

Today was shit. Really shit. I miss my bath. I really miss my bathtub.

But it had to be done.

I – fucking carefully – drove the rover up to the trailer and that was the easy part.

Then…

Then I had to break a promise to myself that I had vowed I never would.

I had to dig.

Yeah, you read that right. James Buchanan Barnes had to once more break out the trusty trowel and tray ensemble and dig.

A lot.

Lots of fucking digging.

If yesterday involved me trying to avoid making any holes or slipping around, today was all about the trench life.

The trailer started the morning upside down, with the nose pointing down the ramp so the easiest way to get it back on its wheels was to just help it complete its somersault and use the ramp incline to pull it back over.

But if I were just hook the rover up to it and pull, I’ll just drag it down the ramp on its roof and that’ll definitely fuck the canvas.

So I dug a trench in front of the nose so that when I dragged it forward, the nose dropped into the trench, grind to a halt and with R2D2 still tugging on it, the rear will flip over the nose and boom, trailer on its wheels.

Actually, that’s a shitty choice a’ words.

No boom please.

No fucking boom.

So I dug. Remember how I bitched about the digging ‘cos I basically got a sample spade, so it’s
effectively little more than a trowel?

Imagine the bitching I was doin’ while I had to dig a trench 1m x 3m and a 1m deep.

In sand.

Do me a favour. Go to the beach, right up the top of the beach, way away from the water so it’s good dry sand, mark out the dimensions of the trench, put on all your clothes so you’re good and immobile, and then dig.

Now imagine that once you get a few inches down, it doesn’t get cold and damp and easier to shovel.

Do all that with a motherfuckin’ trowel.

I was whining my ass off for every minute of the four hours it took.

Guess I’m just breaking Commandment #4 all over the fucking place.

And Commandment #5. ‘You are expected to say something nice after each flight, class, or simulation.’ I got nothing nice to say about any of this. I was having a shitty, shitty, morning and that’s the damn truth.

I get off this planet, and I am gonna break #5 a lot. To everyone.

Think I could manage all 10 before I leave? I’m a completist, I’ll be kinda annoyed if I can’t.

What, you thought I was gonna get close to getting’ off this rock and I’d stop complaining?

Whose autobiography do you think you’re reading? Have you been paying any attention at all? I started as I meant to go on; bitching and complaining.

It’s how I came into this world – according to my ma – and it’s how I’m fucking going out of it.

When I was done, I took the long cable, tied it off to a hook on the rear of the trailer and attached it to the roof of the rover and got to business, driving forward, which dragged the trailer forward, gravity did its thing by having the front of the trailer drop into the ditch and it somersaulted over itself to land on its wheels and then a little more dragging pulled it out the ditch.

Fuck me, it worked. It worked. I actually did it. I got both rovers on their wheels and ready.

I’ve said it before and I’ll probably say it again, physics is the shit!

I’m gonna go right ahead and break Commandment #8 too – ‘Be aggressively humble and dynamically inconspicuous. Save your brilliance for your friends and family’.

Fuck that!

I just fucking righted two rovers with a fucking cable, a drill bit and a trench.

Bask in my brilliance.

Fucking bask.

Of course, I can’t bask in freakin’ anything because it’s dark again ‘cos of the fucking wall. Can’t wait to get back on the road ‘cos then I can get the fuck away from the wall and get some real shit
Because I can’t determine how the Duo is, or how anything in the trailer is because it’s fuckin’ dark, and I ain’t wasting what battery power I got checking it out. I need as much as I can get to get away from the wall as fast and far as possible.

Another night using the life support in the rover. But tomorrow all the sunlight hours I got can be devoted to the innards of the trailer.

**Log Entry: Sol 501**

I started today with a double espresso of caffeine pills.

I need all the help I can get.

Everything is fuckin’ everywhere in the trailer. I knew it was gonna be shitty, so I didn’t even try to enter through the airlock on the side. Instead, and with a lot of pain, swearing, and contorting, I utilized the entrance hatch on the back. It meant nothing could fall out and get damaged – or damage me – and had the added bonus of leaving my EVA suit outside, reducing the amount of crap in there with me.

Even then I could barely get in, and it was not a comfortable landing once I rolled out that hatch. I don’t know what attempted to skewer my right shoulder but I’m gonna find it, and make it pay.

Ain’t I bruised enough?

On top of being full of sharp, pointiness, it was also really hot.

Sahara in a trailer.

Which meant that even without spending five minutes scraping crap away from, and off of, the panels, I knew the Atmospheric Regulator was just fine.

How?

Because it had nothing to do what with R2D2 being my life support at the moment and atmo no longer being shared between the convoy, so it wasn’t trying to convert CO2 so according to it, the trailer was perfect.

But, Bucky, that tells us nothing.

Because y’all never listen to me when I teach you shit.

The AR wasn’t having to do anything because it wasn’t detecting any CO2, which meant it wasn’t pumping air out to the AREC, so there wasn’t liquid coming back in that needed to be heated through the RTG bath.

But the RTG isn’t a generator. It just gives out heat at a constant rate. And it’s no longer putting some of its heat towards warming the water that the returning cold air is fed through because when the trailer flipped the water sloshed out. All 1400W of the RTG’s heat production was warming the rover, and drying out everything that got drenched.
To an uncomfortable 41°C.

For those incapable of conversion, that's 105°F.

Hot as balls.

After I ran a full diagnostic on the Duo – maybe my luck has fucking changed now I’m so close the MAV or maybe Mars has realized that I’m trying to leave and it’s helpin’ me out for once rather than throwing epic tantrums I’d be proud of because they’re both working perfectly – I topped off the reservoir with water, once more submerging the RTG.

It’s really the best case scenario that I’d never have let myself hope for.

Everything it working just fine and both rovers are on their wheels.

Because JPL really know their shit, the hoses and valves that connect the rover and trailer and allow them to share atmosphere and electricity are fuckin’ good at their job and released like they were supposed to, rather than breaking. All it took was snapping them into place and the rover was hooked up once again to the life support from the trailer.

That just left fixing the tow hook.

The composite was designed to take a beating, but not be so rigid that if the rovers came under extreme stress that it wouldn’t break rather than the rover. So on the one hand, it did just what it was designed to do, on the other, I had to waste a bunch of my oh-so-precious time transferring the hook from the Funvee to R2D2.

Four fuckin’ sols this shit has cost me.

But I wasn’t gonna let it cost me more.

I got lucky. I could fix this. But what if there are more hidden sand-traps? What if I get another wheel sink into powder? I gotta go slow. Really, really fucking slow down the rest of this ramp.

The Basin itself should be okay – I can count on the sorta hard terrain I’m used to and the rovers won’t be at an angle like they are on the ramp.

But I gotta get off the ramp, so I gotta make sure that what I’m driving on is gonna hold.

What I wouldn’t give for a chance to talk to the geeks at NASA -they'd be able to give me the safest course down the ramp. I want nothing more than that right now.

Okay, that's a lie. If I could have anything it'd be to have Rogers swoop down and rescue me before asking me to help him christen every single room and corridor of Valkyrie.

Airlocks too.

I'm just sayin' - zero-g sex could be awesome. Or hilarious.

And it's been more than two years without someone else's touch, that's all I'm saying. If I couldn't have Rogers, I didn't want anyone and I'm really looking forward to seeing him again.

I'm gonna do everythin' I can to convince him to break his no sex in space rule.

And baby, I got serious skills.
But to unleash my arsenal on Rogers, I gotta survive to the MAV. Let's not even talk about surviving to Valkyrie just yet.

So, in the interest of science, I went sledding.

I wrote all my findings down and everything, and made sure I had no fun whatsoever.

Half of that sentence was a lie.

Remember that fucked solar panel, that I kinda further fucked by using it to get my rover back on its wheels?

Mars’ first sled.

It took me about ten minutes to hike from where I’d ended up back up to the lip of the crater, dragging the Leiderhosen behind me. Five minutes netted me a bunch of decent size rocks, which I hauled into R2D2 and de-suited to save on filter time, and then wrapped the rocks in duct tape so they were super visible.

No, I didn’t do all that shit just because I miss my arts and crafts times in the Hab.

Do miss the space the Hab had for said arts and crafts, though.

Some work with the duct tape fashioned me a strap I fastened to the underside of the panel, sat my ass and the heap of rocks I’d prepared onto the panel, rolled the lead edge up using the strap, and voila.

First thing I learned was that it was impossible to steer.

Second, was that while I’d started out intending to mark dangerous spots with a tape-rock to avoid the area, it was gonna be faster to mark the safe zones, given how often the sled, so weighed down with me and the rocks, would start sinking into the sand, despite how quickly I was travelling.

Third, I could build up some serious Fast and the Furious: Martian Drift speed if I shifted the rocks to the front of the sled.

A little too much speed.

Cool Runnings: Mars anyone?

I fell off a couple times. Which, incidentally helped me in finding two of the worst spots which I marked, so I’m counting my graceless exit from a solar panel as a win.

It absolutely wasn’t some of the most fun I’ve had on this planet.

"He looks good," Kate confirmed down the phone. "Both rovers are upright and reattached. He left another message."

"I'm on the edge of my seat."
"ALL FINE. WENT SLEDDING."

"When he gets to the MAV he and I are going to be having words about what is and isn't acceptable amount of detail.

"In his defence, he's gotta lug rocks around every time. And if he's trying to fix the trailer, he's gonna want all the sunlit hours he's got."

"Bruce, ya hear that?" Tony's voice was tinny over the speaker phone, the assembled department heads crowded into Rhodes' office while Bruce had returned once more to Pasadena to work with his team on the MAV alterations, and was linked via conference call.

"Yeah, Tony. It's great news. The rover team'll be smug for weeks." Bruce was back to sounding exhausted.

"And the MAV team?" Rhodey asked.

"We're all going 24/7 here again, and we're seeing great progress, especially now Wakanada is aiding us. We're over the big hurdles and hammering out the details."

"Care to share, Banner?" Fury asked.

"Uh...maybe?" There was an evasive quality to Bruce’s voice, a hesitance that those around the table were not accustomed to.

“But, um, this probably isn't the venue for it. We'll be finished in a couple days and I'll be coming back to Houston with the full procedure. Best to talk about it then."

"That's not ominous at all," Kate muttered.

"Took the words right out of my mouth, Katie- Kate."

"You gotta be quicker than that, Doctor Stark."

"Oh god, don't call me that! That's the old man. Makes me feel ancient."

"Sure thing, Doctor Stark."

"Not to break up this up," said Pepper, “but I've got reporters on me 24/7-"

"Hey! That's my job!"

"- and it'd be nice to give them some good news."

"Go ahead, Pep. Get to the press room. Be nice to see a newspaper that doesn't have turtled rovers on it."

In her little office, Kate could hear the swish of Pepper Potts leaving the room and the low whistle that Tony gave.

"Classy."

"Miss Bishop, do you have an estimate for Barnes' arrival at the MAV?"

"Normally, he averages about 90k so I'd estimate his arrival on Sol 504 or 505 if he's more careful. I'd personally guess 505 as he's likely to go slow down the rest of the ramp."
"When will that be for us?"

Kate looked over her notes and checked her times.

"Anytime from 11:41am Wednesday, to 12:21pm Thursday."

"Stark, your people in position for MAV communication?"

"Ares 3 Mission Control team are set up and waiting in Control Room 2."

"You joining them?"

"It's not a party until I arrive."

“Uh,” Kate started before she was cut off and the rest of the meeting carried out without her, “isn’t anyone going to ask about the sledding thing?”

**Log Entry: Sol 502**

My ma didn’t learn to drive until we moved to New York, and lemme tell ya how rare that is, to bother to drive in New York – you know how many New Yorkers bother with a car? Its gridlock city, ain’t nobody getting nowhere fast in a car. But my dad was insistent that she learn, so he taught her.

She’s a safe driver.

Because she’s the slowest on Earth. Snails would look over their shoulders at her and call her slow.

The way I was driving today would have my ma gripping the oh-shit handle with one hand, and a rosary in the other. She’d think I was going way too fucking fast.

At 5kph.

I could get out and walk faster than I was going.

Even during my first driving lesson I was faster than this. I was, if you can believe such thing, a cocky shit when I learned to drive. Passed my test in three months, perfect marks.

This is torture.

Eight hours of torture.

Baby steps is easy to say and boring as shit to do.

Sure, the slower speed gave me more torque and reduced the chances of losing traction again, and more time to react if shit went down again, but I basically became my worst nightmare. I channelled every Sunday driver ever.

Once the ground was good and flat under both my vehicles, I stopped to make camp. I’d done double my normal driving time and despite the slow speed I was on constant high alert.
Think I stressed myself into an ulcer and I'm exhausted. I also wanna maximize the daylight hours I got to recharge, especially as now I'm away from the wall I'm not in shadow anymore.

I'm at Schiaparelli.

I'm fucking here.

I got a few more sols to the MAV but I'm here. I have driven over 3000km to get me here.

So I celebrated.

You know my five food-packs I reserved for points along my journey?

Well tonight I'm chowing down on the one earmarked for surviving something that shoulda killed me. Just don't tell anyone in MC that I’m using the RTG reservoir to heat these suckers up.

And fuck it smells good.

Good thing nobody can hear you scream in space, 'cos the moaning I'm doin' over real food would get me arrested on Earth.

When Bucky met Protein.

Log Entry: Sol 503

Because I drove for double the time yesterday I didn't get as much time to recharge so the batteries were only at 70% so I only got 63km, which leaves me 148km from my destination.

I'm gonna kiss the shit outta that MAV.

Sol after tomorrow, I'm gonna be touching it. I'm gonna be back in communication, I'm gonna be a step closer to home.

Fuck, I'm cryin' again. I'm gonna fucking make it.

Fuck me.

Log Entry: Sol 504

I'm 50km from the MAV.

I'm fifty fuckin’ kilometres from the MAV. In less than 24.5 hours, I'm gonna be there.

I caught the Hab beacon today, which confused seven shades of shit outta me for a while. Almost started looking around for Space Pirates.
Yontu, you out there man?

No?

So, if it wasn’t Space Pirates, what was it?

Remember how the Hab had a beacon signal, helped the rovers get back to it?

The NASA geeks musta got the MAV - in all its sleek, multi-billion dollar perfection - broadcasting it out to lemme find it, and a lighthouse has never been more beautiful to a mariner than that blip was to me.

No more guess work - I just gotta follow that blip right to my new, hopefully temporary, home.

At the moment it’s kinda intermittent’ cos there's some sand dunes between me and it but it'll get stronger as I get closer. It's a mind-fuck that the MAV is struggling to get the signal to me who is on the same damn planet 50k away, when it can talk no problem to Earth, fucking millions of kilometres away.

I'm so used to being in the middle of fuckin' nowhere, all alone, and now I'm able to hear something else, and its doin’ a bang up job keeping my mood up.

Tomorrow I can phone home again.

Pretty soon after that I'm gonna be able to speak, really literally speak, to the first people I've heard in almost 18 months. Valkyrie will be close enough that the communication delay will be minimal and actual speech will be possible.

I'm gonna hear my crew again.

I'm gonna talk to Stevie.

I mighta been crying again when I wrote my message to NASA. I think that the all potato diet, and the borderline starvation is fuckin' with my moods. Maybe it’s the constant near death experiences. Never used to cry like this.

'GOT BEACON SIGNAL.'

I didn't have the rocks - I'm in a flat basin again - to add 'THANK YOU - YOU BEAUTIFUL GEEKS' like I wanted.
The Lone Traveler Returns

Chapter Summary

The MAV waited

Chapter Notes

See the end of the chapter for notes

The MAV towered, unsuspecting, in south-west Schiaparelli, gleaming in the midday sun, every inch a monument to human ingenuity.

In comparison to the beat-up, sand covered, broken and battered rovers that crested the dune closest to it, it was a study in engineering perfection.

The rovers sped towards the MAV, only coming to a halt some 20m from the struts in a plume of dust.

No further movement occurred for 10 minutes.

The Traveler stumbled out of the airlock and so desperate to get to it was he, that his feet slipped in the sand as he ran towards the vessel, stumbling to his knees more than once, but each time he righted himself, slow and clumsy but undeterred, arms outstretched as though to embrace a long-lost lover.

The Traveler leapt in the air as he danced around the struts, spinning and sliding as he went, blowing kisses to the MAV, breaking off to skim his gloved fingertips along the smooth hull before grabbing onto a strut and hugging it close.

The Traveler skipped excitedly around the MAV time and time again, arms above his head like a runner crossing the finish line.

No Olympic gold medalist was ever happier than he in that moment.

Exhausted all too soon by the outpouring of joy and relief, the Traveler fell to his ass in the sand and, leaning back on his elbows, admired the marvel he’d never really expected to see, body shaking slightly as he wept with happiness, his smile so broad his cheeks ached as he laughed through his tears, hands buried deep in the sand by his sides.

He remained there, gazing up at his salvation until he got his emotions under control and pushed himself to his feet.

Making his way to the ladder, he clambered up past the landing stage and to the airlock on the ascent stage.

He climbed in.

The Traveler had made it.
You know the drill, I am not that mean, another chapter will be posted this weekend!
Log Entry: Sol 505

Video Log

Suck it, fellas, Bucky Barnes successfully navigated across a fucking alien planet, without roads, maps, helpful police officers, or GPS.

Morita, Dugan, you guys owe me one hell of an apology.

I did it. I actually fucking did it!

I’m at the MAV.

Fuck me sideways!

I’m back in the rover right now, obviously, but I did go into the Marvellous Mechanical MAV and wake it up and say hi, kick back, get comfortable.

Not really.

Well, I did wake it up.

I booted it all up and started a systems check, but it’s really hard doin’ shit in there with your EVA suit on, and I gotta keep it on at the moment because the MAV doesn’t have life support right now, though I’ve got it hooked into the rover so I’m feeding O2 and Nitrogen into it as fast as I can.

I bet right now a lotta people back at NASA are wanting to get fall-down drunk – and I guarantee you that my sister sure as fuck is gonna be – and getting real excited and sending a million and one messages with a million and one questions, but right now I’m still kinda keyed up from actually being here, and I’m gonna wait to read ‘em until the MAV can support my happy little life without me needing my EVA suit.

You know I hate wearing that damn thing indoors.
Besides, you ever typed in EVA suit gloves?

Take it from me, it's shit.

But once I can work in there comfortably, I'm gonna no doubt have a great conversation with NASA.

Something along the lines of 'You fucking moron, we could have gotten you around the storm in no time but you had to go and destroy Pathfinder, you fucking moron.'

They'd be right too.

But for now, I'm gonna savour my 'Arrival' food-pack, kick back and relax while staring at the mechanical miracle out there.

My salvation.

It's surreal as fuck. So long I've thought of being here, practically from Sol 6, and now I'm here. I can't rip my eyes away from it, in case if I look away, it's going to disappear. Like some fuckin' Martian mirage.

But it's real. It's right there.

My cheeks fuckin' ache from laughing so much.

I fuckin' made it.

Can you believe that?!

[13:36]HOUSTON: Status?
[13:51]MAV: I’m okay. No health or physical issues. Back sore from all the freaking driving and my arm is still weak but I ain’t letting it stop me. It doesn’t hurt much anymore unless I do a lot of physical labour, which I’m guessing you’re gonna have me doing. Equipment is functioning perfectly within expected parameters. Only brought Oxygenator and Atmospheric Regulator – have plenty of water so just brought that. I’ve enough food and water to last me to intercept. How is Valkyrie crew? Did they receive probe?
[14:05]HOUSTON: Valkyrie right on schedule. Probe intercept went perfectly, and they’re anxious to get to you. You brought the water – how much?
[14:21]MAV: I have 550L remaining. Because I didn’t bring the Reclaimer, I’ve just been dumping waste as I go. Makes living in the trailer less like a frat house.
[14:36]HOUSTON: Stop dumping urine. Store it somewhere. Mission Control working out hack to rover, so turn on radio and leave it on. You should be able to communicate from there when we’re complete. Until then, we’re sending you a packet of emails. There's one that Rhodey flagged for you to read ASAP.
[14:52]MAV: Seriously, I can’t go one day without work?
[15:10]HOUSTON: Stop complaining and read the damn thing.
It was late. So late that Steve knew that really it was early as he pulled himself out of his bunk. He was sick of lying sleepless as his mind ticked over every single thing that could go wrong, over the extent of the modifications Bucky was surely having to make, over every single thing that had to go right to bring Bucky home.

Over the fact his reply to Bucky's email had finally been delivered.

No matter how hard he tried, he couldn’t shake the tightness in his chest or the cramps twisting his stomach every time he thought about it.

It reminded him uncomfortably of his sickly youth.

He could no longer count the number of nights he’d lain awake twisting himself up in knots as his mind flashed up images of the MAV exploding on ignition, of the intercept course being wrong, of Bucky being dead inside the MAV when they found it.

Of Bucky being inches away, of Steve straining to reach him, their fingertips brushing before sliding away, Bucky lost to him.

Again.

Desperate to do something, and unable to flick through his sketchpad without seeing Bucky’s face on almost every page, Steve picked up the tablet on his desk, scrolling through the list of books that Natasha had loaded onto it, but unable to choose he just stared at the words until they blurred and he dropped it back down onto the desk with a clatter that he hoped wouldn’t wake his friends.

He froze for a minute, straining to hear any sounds of disgruntled crew-mates. All that he could hear was Thor’s interminable snoring – surely Jane had to be deaf or impervious – and the everyday sounds of Valkyrie’s normal running.

With nothing else to do, and unwilling to get back into his bed and try to sleep again, Steve padded his way out of his quarters, whisper quiet as he passed the other bunks, making his way up towards the Rec Room and its massive window.

He missed being able to look out the window of his New York home and stare out at the moon, thinking back to the telescope his mother had bought him back when he was a bedridden child, the gift allowing him to escape his illness-ravaged body and travel among the stars, to imagine himself the man on the moon.

Little had his mother known…

“Well, if it isn’t the worrying man.”

Steve jerked his head up so fast his neck cracked.

“Sam?”

“What, you think you’re the only one on board who has trouble sleeping?”

“Sorry, I didn’t mean to wake you,” Steve said, keeping his voice low despite the distance between the Rec Room and the crew’s quarters.
“You didn’t. Been in here ‘bout an hour. Couldn’t sleep and had enough of listening to you tossing and turning.”

“Yeah, well, one of those nights.”

“It’s been ‘one of those nights’ for weeks now Rogers,” Sam said, dark eyes serious as he gestured for Steve to sit down.

Steve glanced away, staring out the huge window, unseeing of how Sam’s eyes drifted to his hands, curled into fists so hard they were white knuckled.

“You thinking about the intercept?” Sam asked, interrupting Steve’s thoughts.

“Are you?” responded Steve.

“Yeah, brother, among other things. We all got problems.”

“What are yours?”

“Tonight? Fucking up. Getting it wrong. Killing Bucky. Losing another friend. Watching that kill you. The fact that back home the people gunning for you are gonna be gunning for me too…You name it.”

“You know I’d never blame you for-”

“But I would. I’m the one that’s going to be flying the MAV. I screw this up, I’m going to blame me.”

“I never meant to put you in this pos-”

“Man, shut the hell up!” It was said gently but firmly, a frown creasing Sam’s forehead.

“Did you forget the five of us sitting around this damn table,” Sam rapped his knuckles softly on the table-top, “deciding, as a damn group, that we were going to come back for him? I made the choice for myself. I knew I was gonna be asked to pilot the MAV remotely. I knew it before you did. Hell, I knew before anyone on the ground did. I chose this.”

“But what about, uh,” Steve paused and glanced at Sam, waiting for Sam to nod before continuing, Sam already knowing what he was trying to say.

“What about Riley?” Steve asked, sounding older than he ever had before, except perhaps the morning they thought they’d lost Bucky.

Sam reached over to place a warm hand on Steve’s shoulder.

“This isn’t like it was with Riley. So get that out of your head. I couldn’t do a fucking thing to save him. I can help save Bucky. I’m not just up here to watch anymore.”

Steve nodded, though he didn’t look overly convinced, mouth set in a grim line.

“And I’m the best. But you know how it goes, no matter how good you know you are, at 3am all you can think of is the shit that might go wrong.”

Steve snorted. “Yeah.”

Sitting in silence, the two men stared out the window, watching the stars, easily picking out the
familiar constellations of home.

“Your career one of your other concerns?” Steve broke their reverie an unknown time later.

“Hell no, why would it be?”

“Doing this…you probably won’t get court-martialled, but we’ve pissed off a lot of people. Your career will never progress—”

“I don’t give a shit! And besides, I was thinking it was time to leave the military anyway. Get the number of people me orders right down to zero.”

“Well,” Sam conceded as he thought of the myriad pictures that adorned his quarters, “apart from Marissa and Michael.”

“What would you do?” Steve asked, curiosity lacing him tone, as though he’d been having similar thoughts of his own.

“Are you kidding?” Sam struck a pose, smiling winningly at his Commander. “With a face like this, I’m gonna have modelling agents banging down my door the moment the ink’s dry on my discharge papers! I can see it now, plastered on the side of a Wheaties box.”

Steve was unable to help his snort of laughter.

“Not to mention the ladies. Pilot, astronaut, hero…I’m a triple-threat baby!”

“You’re something all right.”

“Man, green isn’t a good colour on you. You got your boy, Nat and Clint are doing whatever it is that makes him make that weird noise, and Thor has Jane. Let a man live, Rogers.” Sam’s eyes narrowed as he assessed Steve, the dark circles under his eyes, the hunched shoulders and down turned eyes.

“You thinking of getting out?”

“Yes. No. I don’t know.” Steve shrugged and shook his head with a wry smile. “What would I do with myself?”

“Off the top of my head? Whatever makes you happy, man. I’ve seen your art, I see how happy and relaxed you are when you draw…You just gotta find what makes you happy.”

“You know what’d make you happy, out in the world?”

Sam smiled.

“Yeah man. I got Michael and Marissa, they make me damn happy and I got plans, man. I’m gonna go back to school, finish my qualifications. I think I’d be a good counsellor.”

“You would.”

“Damn right! I’ll miss the uniform though.” Sam shook his head. “You Army grunts wouldn’t know this with your uniforms, but us pilots? Damn we look good in our dress blues.”

“Day I met Bucky I was in my uniform, and he seemed to think I looked pretty good.”

“Oh, I see how it is; you get one guy’s attention and you think you grunts are hot shit, huh?”
“Just pointing out that unlike some, I got a guy waiting for me…” Steve’s smirk was shaky, but Sam could respect his attempts at light-heartedness, and play along.

It’d do them both some good.

“Oh, that’s how it is?”

“That’s how it is.”

“You can keep your guy. You remember the beautiful blonde engineer that worked with us at the NBL? Sharon?”

Steve thought about it for a moment. “Yeah, she kicked my ass a few times in the pool.”

“I asked her out before we left. Guess who has a dinner date waiting for him when he gets back?”

Over the previous few months Rhodey's desk had become famous; countless departments were depositing daily - if not hourly reports - and what had been once a neat and perfectly ordered space had become a study in manila stalagmites. Eventually, as towers had a want, they’d collapsed into layers of paperwork several inches deep.

Rhodey suspected that the layer closest to the teak was becoming mulch.

He was about to delve deep into the stacks to see if he could find the other half of the sandwich that he was sure had been right next to the monitor just an hour ago when a tingling chime from his computer drew his attention.

“Good time?” Bruce raised his hand in a waved greeting when he answered the video call request.

“You sounded pretty ominous yesterday, Bruce,” Rhodey said, greeting his friend as the other man settled further into his own office chair, a number of files on the desk in front of him and an anxious expression on his face.

“You’re not going to like it,” Bruce admitted, taking the top file off his own crowded desk, before sitting in the chair that Tony had bought him, shifting around with a frown as he tried to find a comfortable position before giving up, resigned to the back cramps that always hit those unlucky enough to take the seat.

“You know, I miss the days when we engaged in friendly conversation and small talk. When conversations started with ‘how are you?’ or ‘how’s things?’ or even ‘Have you killed Tony yet?’ Now it’s just ‘you’re not going to like it’. I miss those times. They were simpler times. Happier times. Those were the times before I developed an ulcer.”

“We get Barnes back, we can return to those days.”

“Hit me.”

“I want to say right off that this is the only way we’ve found that’ll work. Literally the only way. This is thousands and thousands of hours of work, testing the modifications, thinking outside the
box, and this—"

“Get to it, Bruce. If this is the only way, it’s the only way, but this hesitation isn’t making me any happier.”

“You have to understand that removing weight from a vessel that’s already designed to be as light as possible, wasn’t easy.”

“You’re not selling this really well, just letting you know,” Rhodey tapped the file before him, flipping to the first page.

“Just warning you.”

“This is gonna freak me out, isn’t it?”

Bruce grimaced. “You’re not going to be thrilled. I’m not thrilled.”

“This a private plan, or can I hear it? Stop dancing around, Bruce,” Rhodey snapped, already feeling a headache beginning to form behind his eyes, his scalp feeling two sizes too small, hot and tight.

Which was only made worse by Bruce’s next words getting garbled and broken, the image on screen freezing for several seconds before shifting to fill only half the screen, the other half black for a few seconds before an image popped up of a young woman with long braids and an earnest expression.

“Am I late?” Her voice was high but Rhodey could hear steel beneath. This was not a woman to cross.

“Right on time.” Bruce’s image had unfrozen, and the other man was looking calmly into the screen, clearly familiar with the interloper and that only served to deepen Rhodey’s headache. He expected this sort of shit from Tony, but Bruce was meant to be on his side.

“Awesome! Rhodes, I’ve got some great things to show you!”

On the edge of his vision, Rhodey could see Bruce shake his head gently, and evidently so could she.

“Ignore him. He’s all green that I devised more of the plan than him.”

“That’s right,” Bruce agreed, a little too quickly for Rhodey’s liking. He recognised that move. It was the classic ‘passing the buck’ manoeuvre beloved of commanding officers, and Starks, everywhere.

“Who are you?” Rhodey felt compelled to ask before his day got weirder.

The woman drew back and frowned.

“Shuri.”

‘Oh shit.’

“As in—”

“As in.”

“Your Hi—”
“Can we skip all that, because I’ve got other things to do today than help your asses-”

“Shuri!”

The princess slumped in her seat and glanced off to her left toward the unseen speaker.

“Sorry, Mama.”

“The biggest issue,” Bruce tried getting them back on track, “was the intercept velocity. Valkyrie will be traveling at 5.8kps but the MAV was designed to get to Low Mars Orbit at 4.1kps.”

“How are we going to get that extra speed?”

“Couple ways,” Bruce shared.

“To start, we’re going to add more fuel. The MAV is making fuel with the plant in the landing stage but that’s limited by the amount of hydrogen it has access to – enough to make over 19,000kg. If we get it more hydrogen, it can make more fuel.”

“Enough?”

“For every extra kilo we can feed it, it can make another 13kg of fuel.”

“How do we get the extra hydrogen?” Rhodey asked, suspecting he knew the answer and hoping it wasn’t what Bruce was going to say, and watching with deep suspicion as the other man bought himself time by slouching further in his chair and kicking his feet up onto a precarious stack of files in a misguided attempt to both buy himself time and get comfortable.

“The bigger question is what are those?” Shuri, no longer cowed by her mother, was sitting straight in her chair, leaning towards her screen with a disbelieving smile splitting her face. “Why can I see your toes?”

Bruce was indeed taking advantage of being without both Betty and Tony and their fashion sense – and capacity to see – and wearing the ugliest, most beat up pair of khaki coloured shoes Rhodey had had the displeasure of seeing.

“They’re comfortable,” Bruce defended with a scowl.

“They’re Crocs.” Shuri sounded both horrified and mildly impressed a grown man would allow himself to be seen wearing the monstrosities.

“Rhodey, back me up here.”

“You’re on your own, buddy.”

“Can we move on from my footwear?”

“I’d love to.” Rhodey however did note that the Princess was still entranced, her facial expression frozen somewhere between horror and confusion. When Bruce started talking, however, she snapped her attention back to the screen.

“Bucky has 550L of water with him. We have him electrolyze that, free the hydrogen and that’ll net 60kg of hydrogen, for an extra 780kg of fuel.”

Rhodey sighed; he’d really hoped Bruce hadn’t been about to say that.
“You know he has to drink that water, right?”

“But not all of it. And we’re going to have him electrolyse his urine. It’d be easier if he’d brought the Water Reclaimer but…” Bruce shrugged.

“Is 780kg enough?”

“It’s a fight of weight vs thrust. We need less weight and more thrust. That 780kg will get us the equivalent of lifting another 300kg of weight. If we can drop even more weight than that from the MAV, the thrust will be faster, and get the MAV further.”

“How much weight needs to go?”

“A lot.”

“Bruce…”

“We need to drop almost half the weight of-”

“Half?!”

“We need Barnes to strip out over five thousand kilos of dead weight.”

Rhodey closed the file in front of him, and gestured for Bruce to continue, bracing himself for whatever insanity the JPL and Wakandan teams had come up with.

“Shuri?” Bruce handed over to the young genius.

“If you’re going to get this outdated tin can to atmos-”

“Hey!” Bruce’s team, a chorus of irritated techs and engineers, no doubt packed like sardines into Bruce’s small office, voiced their defence of their precious craft, already upset by the idea of tearing it apart and not about to see its honour besmirched.

“Okay, okay. If you want this old technology, functional but old, to get into the sky, you need the very best, and so you’re lucky you’ve got me.”

That only inflamed Bruce’s team more, until Shuri grinned and waggled her eyebrows.

“Your Highness, I take it that you’ve found a way to magically drop enough weight from the MAV to get it out of atmo?”

“Not with magic. With technology.”

Shuri shifted backwards from her screen until her upper body could be fully seen and raised one hand in front of herself, palm up and flat. The other hand pressed a bead from a bracelet around her wrist, the dull bead glowing blue for a moment before a hologram shimmered into existence, rotating lazily on the vertical axis, seeming to rest just above Shuri’s palm.

“This is your-”

Several engineers, including, Rhodey would swear, Bruce, grumbled and Shuri chose her next words carefully.

“-MAV now.”
She curled her fingers in and balled up her fist, the hologram crushing into a ball like paper and then splayed her fingers again.

“And this is what it will be.”

Rhodey stared in silence.

It had been gutted. The once gleaming monument to human ingenuity looked as though it had been left on the wrong side of town with the keys in the ignition, hauled to a chop-shop, stripped for parts, towed to a scrapper and then crushed. Only the nose cone remained to even identify the structure as a spacecraft.

“The fuck?!”

Bruce’s feet thudded down, along with a good foot of the paperwork stack that they’d rested on.

“Yeah.”

“The fuck, Bruce?!”

“That’s not even the bit you’re not going to like.”

“Are you kidding me with this?”

On her half of the screen, the proud smile on Shuri’s face slipped and she glanced between camera and hologram repeatedly.

“Let us talk you through it,” Bruce held up a hand to calm his friend, but Rhodey didn’t miss how the engineer looked pretty perturbed by the plan himself.

“This is the only way, Director Rhodes,” Shuri assured him. “We tried endless permutations. This is the only way that works.”

“We can save 500kg immediately – he won’t be bringing back the samples he’s been taking, which I guess a few people are going to be upset about.” Bruce was all business, explaining what needed to be done to the craft.

“They’ll live,” Rhodey mumbled, still unable to draw his eyes away from the mutilated MAV.

“We’ll lose another 500kg because the rest of the crew won’t be with him and Bucky can rip out their acceleration couches.”

“One thousand down, four to go.”

“Anything non-essential has to go – med kit, tool kit, internal harnesses, straps, anything that’s not nailed down is getting ripped out.” Shuri screwed up her face, and conceded, “And some stuff that is nailed down has to go.

“All life support has to go. The tanks, pumps, heaters, air lines, CO2 absorption, insulation…we’re gonna have Barnes in his EVA suit the whole trip.”

“The EVA gloves make manipulating the controls difficult. That’s why the pilots don’t wear their full suit when-”

“He’s not going to have controls to manipulate.”
“Excuse me?” Rhodey’s eyes tore from the MAV and he turned to Shuri.

“I knew you wouldn’t like it,” Bruce muttered.

“You’re removing the control panel?”

“Barnes isn’t a pilot. I have read his filed – he is brilliant, but he’s not a pilot and you will need a pilot flying the MAV for this. Wilson on the other hand is a pilot and he’s flown MAVs by remote before according to your Mister Stark. He’s going to fly the MAV.”

“He is the best,” admitted Rhodey, rubbing his forehead in an attempt to quell the tension headache he suspected would be a migraine in short order.

“He can do it. Its better Wilson fly it, than Barnes attempt to. Too much is at stake to be walking him through how to fly an ascent vehicle, let alone get it out of orbit.”

“Because we’re taking out the control panel, we can rip out the power and data lines too.”

“You’re right, I’m not loving this.”

“It gets worse.”

“Of course it does,” sighed Rhodey. “You’re basically telling me that three billion dollars worth of engineering is going to end up looking like a rock band spent the night in it and wrecked shit.”

“Could be worse,” Bruce offered.

Rhodey’s face fell. “How?” He wasn’t proud of how shrill he sounded.

“Could be a murder-bot.”

“It might kill Barnes, I think that’d be pretty murderbot-esque.”

“Good point.”

Rhodey shot him a mirthless smile, rubbing his fingertips over his bottom lip.

“No time like the present, might as well hit me with the rest.”

“Without life support we can dump three of the batteries and the entire auxiliary power system. The Orbital Manoeuvring System in the nose isn’t going to be of use, so we can rip those thrusters right out and remove two of the backup comms systems.”

“You know, I’d swear you just said that you’re going to have Wilson remotely pilot the MAV without a backup comms system.”

“They’re redundant,” Shuri pointed out. “If the comms go out during ascent, it’s going to take us too long to reacquire them, even with backup comms available.”

“I think I’m going to name the migraine I’m developing from this meeting ‘Shruce.’”

“We can’t be worse than Tony.”

“I’m used to Tony. I expect this shit from Tony. You’ve betrayed me, Bruce.”

“I’m going to make it worse in a minute.”
“Just remember this – if you kill me with this shit, Tony’s gonna make you his new BFF. He’s been talking about moving to California.”

Bruce looked torn between ensuring that personal horror didn’t occur, and completing walking Rhodey through the modifications. Shuri, for her part, was unable to hide her amusement at Bruce’s expression. She’d spent more than enough time around Stark when he’d been in Wakanda to be sure she was fine going through the rest of her life with as little of the engineer in it as possible.

His ideas were just too outdated for a start.

There were times when Rhodey wished he was the sort of man to keep a bottle of whiskey in the bottom drawer of his desk. A number of those times invariably involved Tony Stark, but never once had the impulse been as strong as it was right now with Bruce opposite him explaining how he planned to send a man into space in what amounted to a contesting piece from Scrapheap Challenge.

Rhodey suspected that even several bottles of whiskey weren’t going to be enough to soften the blow he knew was coming.

“I should have gotten drunk for this conversation.”

“Don’t think it’d make any good.”

“Oh God.”

“Yeah, if you could have a word with Him, that’d help.”

“Oh God.”

“There’s literally no other way, Rhodey.”

“You keep saying that in that tone that suggests you think it makes it better.”

“I’m guessing it doesn’t?”

“Not even close.”

“We don’t have the time to go back to square one, and even if we did…”

“This would still be the only way,” Rhodey finished, resigned.

“Nothing we’ve done with Barnes on Mars has been traditional. None of it has been what we ever thought we’d do. He’s survived all that. He got 3200km on his own. He rolled the rovers, he got in a dust stor-”

“Exactly! I don’t want to kill him now!”

“If this fails, he’d die on Mars anyway.

“That doesn’t help either, Princess.”

Bruce bit his lip and huffed a sigh. “We know, Rhodey. But I think we’ve got to give him that chance. You know Bucky best – would he rather die trying or starve to death?” Bruce’s tone was achingly gentle as he questioned his friend.

They all knew the answer.
Pinching the bridge of his nose, Rhodey gestured for the duo to continue.

“This…this is much worse. This is the part I said you were really not going to like.”

“I hate all of this,” Rhodey pointed out.

“No, really. I don’t like this.” Bruce winced. “Shuri, this was your idea.”

“Only because I don’t know why you didn’t just start by doing it.”

“Because we didn’t think of it?” Bruce’s tone was that of a man disbelieving that he was having to explain to someone the horrors of what they were suggesting.

“I’m sure you did your best,” Shuri soothed with a smile. “You can’t help it.”

“Help. What?”

“This.” Shuri raised her free hand to the hologram still resting on her palm, and delicately flicked at the nosecone, the entire cone shimmering out of existence.

“We’re, uh, we’re gonna remove Hull Panel 19, the nose airlock and the windows.” Bruce braced himself in the chair, expression unsure as he waited for Rhodey’s reaction, while his friend stared at him.

“You want to take the nose of the ship off?” Rhodey sounded deceptively calm.

“You’re taking this well.”

“I’ve worked with Tony for years, I’m a professional at faking calm. If I went to crazy town every time somebody said something impossible and fucking stupid, I’d need my mail forwarded.”

“The nose airlock weighs 400kg. The windows you people devised are far too heavy too and what’s he going to be looking at? It’s all connected by the hull panel so…”

“Let me get this straight. You want to jettison Bucky Barnes into space with a fucking hole in his space craft?”

“We’re going to replace it.”

“Oh. Good.” Rhodey’s head was pounding and even though he’d barely whispered, his voice rang in his ears.

“With Hab canvas.”

Rhodey raised his eyebrows, leaning his chin into his hand as he felt hysterical laughter bubbling up in his chest over what Bruce was suggesting.

“You want to cover the ship with Hab canvas. For out of orbit travel?”

“The hull mostly just keeps the atmosphere in, rather than streamlining the vessel. By the time the hits the sort of speed that air resistance will be a problem, it’s going to be high enough that there’s practically no air anyway. We’ve run simulations,” he assured a silent Rhodey.

His friend just nodded.

“There’s a couple other alterations,” Shuri continued.
Rhodey just stared at her.

“He needs to remove the back panel, the auxiliary fuel pump, and, uh, well, Bruce tells me you won’t like this.”

“There’s something I’m not going to like that’s worse than sending a man into space under a fucking tarp?!”

“We need him to ditch a Stage One engine.”

“An engine. You want more thrust and you’re ditching an engine?”

“It saves a hell of a lot of weight and saves fuel.”

“You done?”

“Yeah,” they both nodded. Bruce added a, “yeah, that’s it.”

“Hallelujah!”

Shuri didn’t bother trying to hide a laugh.

“With all those modifications, what’s the chance of failure?”

“4%” Shuri answered confidently.

“Fuck that’s high.”

“It’s all we can do. It’s the only way it works.”

“Fan-fucking-tastic. Thanks. You’ve both just taken ten years off my life.” He didn’t mention that it might well end Bucky’s.

“You want me to go to CAPCOM with you?” Bruce offered.

“Sure, why not. The more the merrier.”

[08:41] MAV: Are your fucking with me?! You have to be fucking with me. There’s no way you’re sending me into space with half my ship missing!
[08:55] HOUSTON: It’s the only way that it can be done. We’ve had to make concessions for the tools you have and the time. We’re also compiling the procedure for to electrolyze water and urine to release the hydrogen.
[09:09] MAV: Woah, let’s go back a step. I’m still shitfing myself that you’re sending me into space with the fucking top down.
[09:24] HOUSTON: You’ll be using Hab canvas to cover the hole.
[09:38] MAV: You say that like it makes it better. You’re all fucking insane, and that’s comin’ from the guy that blew himself up making water.
[09:51] HOUSTON: You’d be amazed how many people are actually grateful when I save their lives. I even got some medals. Have you seen my medals?
[10:07] MAV: You save me, I’ll ooh and ahhh over ‘em as much as you want.
Log Entry: Sol 506

Remember how on the trip I decided I’d put the Duo in the tent and use the trailer as a bedroom and workshop for the modifications on the MAV?

I reconsidered.

To do the modifications with my gloves off and in relative comfort all I need is a pressurised vessel, and I dismissed the bedroom tent because it had to be hooked up to an airlock and it’s a fucking hassle.

But I was being stupidly dramatic.

Shut up, I’m allowed to be dramatic sometimes.

The only thing that using the tent as a workshop costs me is time. It’s a hassle, yeah, but I got plenty of time and a lot of the modifications NASA is having me do – and fuck me, I needed to change my shorts after Bruce and Rhodey ran that past me (I thought those guys were my friends and they do this!) – can be done in the MAV itself.

I don’t even know where to start with describing what the insane asylum of geeks – and maybe I was wrong, maybe they wouldn’t have shit themselves at the idea of using the RTG for a bath - back on Earth want me to do with the MAV.

It ain’t modification, its downright mutilation.

This might just kill me, but I would hardly be the first willing to die for freedom.

That said, I ain’t going all can opener on the hull until I have to. I got a lot to do to before then, like ripping out shit that I feel okay ripping out. Like acceleration couches and control panels.

But today was all about systems checks on the MAV. Despite what you might think with the fact they’re sending me into space in a fucking ragtop, they’re big on me doin’ nothing until they’ve had a meeting about it, formed a committee and voted. I have to go back to being all safety-first.

The irony of that might kill me.

Safety means systems checks. Even on the shit I’m ripping out.

I also had to run full checks on the equipment I brought with me – they don’t seem to trust me when I said it’s all workin’ fine. For fuck’s sake, I’m an engineer! I might not know where to start with ripping apart an MAV but the Regulator and Oxygenator are good with me. I know how to keep ‘em sweet.

But whatever.

NASA is all antsy that the shit I brought with me isn’t operating at peak but what did they expect? It’s been working for about 18 times longer than it was designed to, packed into a modified trailer – that’s starting to leak atmosphere a little every day, but not too bad - rolled down a ramp, held upside down, flipped back over and dragged 3200km across the planet surface.

For that matter, I ain’t exactly operating at peak, but for some reason that doesn’t seem to bother
them anywhere near as much as their precious equipment.

I'm always the bridesmaid never the bride.

Tomorrow, I start vandalising the most beautiful piece of machinery I've seen in 18 months.

The MAV is about to get Barnesed.

[19:23]MAV: Nat?! They're letting you talk to me directly now?
[19:24]ROMANOFF: Please, like they had a choice. We don't have long, they’re gonna catch on and stop us, but I found a work around to say hi. We’re only 1 light-minute apart now so we can talk in almost real-time. I just finished setting up the system and this is the test-run.
[19:25]MAV: Lemme guess, Garner didn’t want you guys talking to me in case I flipped my shit?
[19:26]ROMANOFF: Something like that. Rogers got pretty pissed at him. I didn’t even know he knew some of those words existed.
[19:27]MAV: That’s my boy! Garner seems to think that just ‘cos you guys abandoned me to live on Mars for 18 months by myself, with no chance of survival because this fuckin’ planet hates my guts, that I’m gonna freak out on ya,
[19:29]MAV: He still thinks it’s his fault, huh?
[19:30]ROMANOFF: What do you think?
[19:33]MAV: Speaking from experience there, Romanoff?
[19:34]ROMANOFF: Love is for children.
[19:35]MAV: And Clint is so very childlike.
[19:38]MAV: HAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAHAAAHAHAHAHAHAHA
I knew it, he made his move!
[19:41]MAV: HE DID! I knew it. I’m taking credit. I told you guys to go for it. Sam and Thor must be getting desperate – you guys getting hot and heavy, and the knowledge that if I get my ass back on that ship, I’m gonna be taking advantage of Steve every single opportunity I got, and those guys only got their own right hands. Oh man, remind me to make some joystick jokes at Sam.
[19:42]ROMANOFF: Not long until you can do that.
[19:43]MAV: I thank you yet for coming back for me?
[19:44]ROMANOFF: You’d do the same for us. How’s the MAV?
[19:45]MAV: Looking like I parked it in the wrong part of town. I just spent three days removing Hull panel 19. Weighs a fucking tonne even in Mars G. Which I guess is why they want it gone.
[19:46]ROMANOFF: Before we pick you up, I gotta admit something – I’ve always had a real crush on you, and if you and Steve every want to try a 3-way, I’m totally in.
“You just killed him,” said Steve.

“Yeah, I got that, thanks,” Sam scowled at the readouts on the screen that told him he’d crashed the MAV into the planet.

“What you hit him with Nat?”

“Malfunctioning altitude readout and an engine cut out. Deadly.”

“But I shouldn’t have crashed. It was so obvious the readout was wrong, I should have noticed.”

“This is why we drill, this is why we go over it. You’ve got weeks to practice.”

“Oh, I’m gonna get it right.”

“It’s not your fault, Sam,” Natasha said. “We only got a week of remote launch training because it was only supposed to happen if we scrub before landing.”

“It’s mission-critical now. We’ve got to get it right.”

“This the royal ‘we’?”

“Hmmm?”

“You are simply ornamental at this point, Rogers. I’m not saying you’re not pretty,” Natasha chuckled as Sam continued, “but you’re not really helping up here.” Sam smiled widely at his Commander as Steve rolled his eyes.

“He’s got a point, Cap,” Natasha said as she reset the simulator for Sam to try again.

Steve held his hands up, and backed away from their chairs.

“Fine, fine. You’ve made your point.”

He turned to leave.

“Oh and Nat? Don’t go easy on him.”

“Asshole,” Sam murmured, though he was already intently staring at his screen.

Natasha saluted him as she nodded to Sam that the next simulation she’d programmed was ready to go.
After he left the bridge, Steve decided to check on the other two members of the team, and made his way towards the reactor, becoming increasingly light as he made his way towards the core of the ship where the Tesseract was housed and where Thor was running yet another diagnostic on the engines. Only the legs of the giant man were visible, his entire upper body were crammed into what the ground crew laughingly called an ‘access tube’ but was little more than crevice in the hull that allowed access to the interior panels of the Tesseract.

Nobody, when designing Valkyrie had ever imagined someone of Thor’s, or Steve’s, sheer size being on board, and it showed throughout the craft. More often than not, Natasha, with her much smaller frame, was pressed into service to help out the larger crew members who literally couldn’t fit into some chambers of the ship, but she was too busy with Sam to aide Thor.

“How’s it going?” Steve asked as he grabbed a handle to stop himself floating up to the ceiling.

“Miss Romanoff requested I carry out a diagnostic upon the Tesseract while she aided Major Wilson in his training.” Thor’s voice was muffled, but for once his iffy relationship with volume control worked in their favour and his answer carried to where Steve hung above him.

“How is the Tesseract okay?”

“It is working well within parameters, with the reduced output. The tarnishing does not appear to have increased in rate, and we remain on course for the intercept.”

“Speaking of, we’ll be where we need to be?”

“Within four metres of position. Doctor Barton assures me that he can adjust easily for such a distance.”

Steve nodded and clapped the Norwegian on the shoulder.

“Thank you.”

“It is part of my job, Commander.”

“We both know it really isn’t.”

“Doctor Barton asked after you earlier, he desired you to meet him in Airlock 2.”

“Thanks. Keep me posted on any changes?” Steve nodded towards the housing of the reactor.

“Of course.”

As Steve made his way towards Airlock 2, he regained gravity, able to walk along the hallway that led to where Clint stood wearing heavy-duty work gloves and with coiled wire sitting like a lasso over his shoulder.

“Thor said you wanted to see me?”

“I wanted to run something by you.”

“This about the EVA?”

“Yup!” Clint gestured to the coiled wire. “I’ve attached all the tethers we’ve got into one long line so I’ve got 214 metres to work with and with the MMU pack I can move around easy and get up to about 10m per second. More than that and the tether might snap or the connector will pull from the suit.”
“What sort of relative velocity can you work with?”

“Once I get to Bucky? I can grab the MAV at 5mps. 10mps would be like jumping onto a moving train, and I can do that. I have actually, back when I was a kid-”

“Barton!”

“Sorry! Uh. Anything over 10mps I might miss.”

“So with the MMU safe speed we need to be within 20mps of his speed?”

“And within 214m,” Clint finished spooling the tether. “Wilson think he can do it?”

“He’s running drills with Natasha.”

“She being mean?”

“What do you think?”

“We’ll have some time, Steve. The launch is 52 minutes before we intercept and it’ll take 12 minutes so we’ll have 40 minutes to correct anything,” He grinned. “And besides, we’re not stuck to 214 metres.”

Steve narrowed his eyes.

“I know I’m not meant to go out untethered, but it’s Bucky and I could-”

“No.”

“But I’d be fine, Commander! Come on, you’ve seen how good I am at this! I’m a freaking acrobat with that suit and you know it. I could go out more than triple the distance with the fuel on board!”

“Not an option. You can’t train for this!”

“I can and I have. I’ve got this, Cap. I had a momma, I don’t need another one. You’d do it!”

“We’re not talking about me. I’m not losing another crew member.”

“You’re not gonna lose me-”

“Damn right I’m not, because you’re staying leashed.”

“Fucked if I am!”

“Clint!”

“No.” Clint squared his not inconsiderable shoulders and raised his chin. A couple of inches shorter than Steve, that didn’t make him short, and while he wasn’t quite built on the same scale as the Commander or Thor, his shoulders were broad and his biceps more than respectable.

In short, Clint was neither a weak man, nor one unaccustomed to fights.

And that’s what Steve recognised in the Doctor’s eyes. The burning fire of a man willing to literally throw down if it meant he’d win this particular disagreement.

“You aren’t the only one that misses him, Cap. You aren’t the only one that has nightmares. He’s
my friend too. And I was the reason we left. I told you he was dead.” Clint’s eyes narrowed, the advancing crow’s feet around his eyes creasing up. “That was me. We left because of me. If I have to go untethered, I’m doing it. And there’s fuck all you can do about it, Commander.”

With that, Clint threw the coiled wire to the floor and stormed from the airlock, allowing his shoulder to knock into Steve with enough force to push his friend back into the hull and striding away down the hall, leaving Steve to blink after him in silence.

Log Entry: Sol 526

I’m pretty sure I’ve managed another first today.

Pretty sure I’m in a party of one of people who’ve vandalized a three billion-dollar spacecraft. As I go, I fill the main airlock with shit that I’ve ripped out and then when it’s just about full, I suit up and dump it all outside. I did think about making a nice neat heap of stuff, but fuck it, I’m just making a dumpsite out there.

Maybe some Space Pirates will be by to negotiate a good price for the control panel as a spare for their own craft.

Think they’d give me a lift?

Juvenile delinquent Bucky is fucking loving this.

Mechanical engineer Bucky is kinda getting off on it.

Broken, skinny, arm-throbbing, starving, doesn’t wanna die in this tin-can death-trap Bucky is screaming constantly.

You know that scene in Armageddon where the drill crew just fucking gut the machinery NASA is sending up while a bunch of techs and real astronauts look on horrified?

Yeah, that was the part of me that didn’t want to die today.

Just with more internal screaming.

And some external.

That’s gonna be me from now until intercept.

It’s so reassuring to know that when I get this bird off the ground – or at least when Sam does – that I’m not gonna be hampered by any pesky life support or emergency systems.

Y’know, the sorta shit I had to risk life and limb to fit into my rovers, and haul across a planet, but apparently now no longer need.

The first stuff was easy. Well, it was a fucking pain in the arm but it was easy. I started with removing the five unnecessary acceleration couches, the control panels I won’t need and the more easily accessible back-up systems.
Unlike literally everything else I’ve done up here, I ain’t improvising or doing a thing without double checking with Houston. I know over the last 500 sols I’ve kinda built myself a reputation of being a fucking stupid moron, but even I ain’t suicidal enough to want to be the one making the decisions on gutting my lifesaving MAV, and from what I can gather from just about everyone, Princess Shuri is smarter than everyone else put together.

I really hope she is, or I’m fucked.

I wonder how many engineers are weeping back at JPL as I tear this shit apart…

Sorry guys. You did an awesome job on this, it’s such a gorgeous machine, but if it saves my life, you can be even more proud of it.

**Log Entry: Sol 529**

Guess whose urine is worth more than gold?

This guy’s.

Puts a whole new spin on the term ‘golden shower’.

A disturbing one, but a new one none the less.

I need to feed the fuel plant more Hydrogen than it currently has access to. The way to do that is electrolyze water. I have a limited amount of that but as long as I hold back some to drink, I can use it all. I can also use my urine because it’s almost all water.

But like when I was breaking down the Hydrazine, I have a problem.

How the fuck do I capture and store the fucking hydrogen?

I can’t use the Regulator because even it doesn’t know how to pull hydrogen out of the air – back in the Hab when I turned New Brooklyn into a bomb, the only way to deal with it was to burn the hydrogen and turn it into water but that would be fucking pointless now.

Enter Princess Shuri.

If you’ve never had a sixteen year old very seriously take you through how you’re gonna turn piss into fuel, then you haven’t lived.

That wasn’t uncomfortable at all.

But once I got her to stop going on about creating a ‘hybrid electrochemical system for urea and urine treatment and simultaneous H\textsubscript{2} production using BiO\textsubscript{x}–TiO\textsubscript{2} anode and stainless steel cathode couples with different electrolytes’ and talk to me like a real human being and not someone who actually understands or likes chemistry, we were able to get along just fine.

First I have to disconnect my convoy and then depressurise the trailer, back-filling it with pure O\textsubscript{2} at 1/\textsuperscript{4}th of atmosphere. Then I open my Box O’ Bucky’s Piss – which incidentally smells a lot better than the Bucket O’ Bucky’s Shit but still ain’t exactly a bed of roses – and place the electrodes in. The electrolysis separates the hydrogen and oxygen.
You know how I said urine is *mostly* water? Well there’s a bunch of other shit in there too and that *doesn’t* get released and so just becomes this really gross greeny-yellow sludge. It’s disgusting. Y’all seen the videos of people boiling all the water outta soda and being left with a syrpy mess?

Yeah, it’s about that level of gross.

That shit I *did* dump on the surface.

But hey, look, I made another bomb!

How I’ve missed almost blowing myself up.

The Regulator might not be able to deal with hydrogen, but it can recognise O2 when it meets it and yanks it right out the air. With the help of the Shuri I was able to pull off what I’d wanted to do when I made the Hab a bomb and override the safety mechanism – fuckin’ rude, by the way, that the Regulator played ball with her and not me. Judas - to trick it into removing *all* the oxygen from the trailer, leaving me with a huge container of pure hydrogen.

But I want it in a nice *small* container.

So I open up the trailer airlock’s inner door and have the airlock depressurise the whole trailer and voila, the airlock’s holding tank is full.

All I have to do after that is feed that hydrogen into the MAV’s own hydrogen tanks, leave the fuel plant to it, and it’s done.

Y’know, simple.

Of course, it’s only done for the next few days. I’m gonna have to do this procedure time and again until close to launch. *I* wanted to do it all in one go and just be stingy with my water, but NASA got all knock-kneed about it and only want my electrolysing urine for the moment.

There are some of the same nerds that decided to send me into space in a freakin’ convertible for fuck’s sake!

I can, however, tell people I piss rocket fuel.

Chapter End Notes

What? Has Bucky STILL not phoned home? what sort of monster am I?
Valkyrie is finally close enough for a phone call.

I have been nervous of posting other chapters, but this one...this one full out terrifies me.
I hope you like it

“Bucky freaking Barnes! The man, the myth, the Martian!”

“Hey idiot!”

“Hey, Buck,” Steve added over Clint’s whoops of glee.

Hearing their voices hurt.

I’d known it would, but God, it hurt.

I hadn’t heard another real person’s voice in over a year and it was overwhelmingly surreal, as though if I closed my eyes, it’d be Sol 6 again, I wouldn’t be in the MAV alone. Instead, I’d be in the Hab with my crew.

Just another mission day on Mars.

It hurt.

But it was a good hurt.

It wasn’t a knife to my gut or a squeeze to my heart like I’d feared.

It was aching muscles after scaling a mountain, standing successful on the summit.

It was a tickle in my throat, like I was minutes from crying

It was the release of tension in my heart.

It was my crew and if I wasn’t careful, I was going to weep over the airwaves.

‘Cos that’s real fucking sexy.

“How you doin’ down there?”

The couch beneath me shifted as I swayed, unsteady on my seat, head swimming at the sound of a real human voice. At the sound of Steve’s voice, a little thin over the radio, but so fuckin’ good. I ain’t biased or nothin’, but Steve has the sexiest voice on Earth. Or any planet.
Seriously.

It’s all deep and sometimes raspy, and if you get him drunk his Brooklyn comes out, a burr to his words that never fails to turn my crank.

But like I said, I ain’t biased or nothin’.

“No, it’s all deep and sometimes raspy, and if you get him drunk his Brooklyn comes out, a burr to his words that never fails to turn my crank.” I replied, proud of how my voice didn’t shake, even if it was raspy as shit. “Hey, Steve.”

Which mighta come out a little more breathy than intended.

Okay, a lot more breathy.

Sam was never gonna let me hear the end of it, but fuck him, a guy is allowed to get a bit stupid around his fella.

Especially when he’s having to sit around and twiddle his thumbs to hear back from the guy.

Here’s the thing: I’ve never been that guy that agonizes over messages. I’ve never been wracked with nerves sending a text or leaving a voicemail. I’ve never lain awake at night shitting myself about it someone is gonna message me back or if I’ve put myself out there on a limb that’s gonna break.

That ain’t me.

Except now it is.

That ain’t progress I’m proud of.

The 20 second delay in communication between Valkyrie and the MAV made conversing a little frustrating, like having a really piss-poor connection on an international call back on Earth, 40 seconds between asking a question and hearing the answer, but I couldn’t give a shit.

I was freaking dying to stretch and move around, my joints aching with it, and I needed to piss like a racehorse. I’d been busy ripping out entire sections of the flight deck, systems previously deemed vital to survival and now viewed as garbage, when the radio had crackled to life, the whole cabin turning into a screeching horror-show for several seconds that scared the shit out of me seein' how I was trashing the joint.

Thankfully, my super-manly squeak of terror did not transmit to the Valkyrie.

But I was fucked if I was moving away from the terminal, regardless of what my body seemed to suggest was deeply necessary. I was gonna make the most of the opportunity, just in case it was the only one I got.

“Hey, Natasha? You there?”

“Yeah, I’m here.”

“I thought we had a deal, Natasha? No risks, no taking any chances, get home alive—”

“You broke that deal first, James.”

“Hey, what are Thor and me? Chopped liver? Who raised you? Say ‘hi’ dammit.” Thor and Sam’s
greetings followed hot on the heels of Natasha’s indignation a moment later, the pilot far more boisterous than the chemist.

“Can, uh, can NASA hear this?” I asked after I had assured Sam that while I was thrilled to hear from Thor, I had no idea who the fuck the other dude talking to me was.

“Who the hell do you think you’re talking to?!” I rolled my eyes at the indignation in Nat’s tone, and Sam’s continued spluttering.

“That’s what I thought,” I replied, but the rush of relief that Houston wasn’t able to listen to the conversation was intense all the same. Garner was an okay guy, for all he was a Doctor FeelShit Douchebag at times, but I was fucked if I was gonna have him getting all Truman Show on me again. He’d spent more than enough time conducting who I got to talk to and when and how.

“How are you, my friend?”

“I’m doin’ okay, Thor. I’m happy as any mechanical engineer can be given I’m ripping apart a beautiful machine.”

“NASA has informed us the modifications they require are quite extensive.”

“That’s one way of putting it,” I shared with a snort.

“Am I gonna be able to fly the damn thing?” Sam asked.

“How well could you fly before, that’s the question?”

“Fuck you, asshole. Is the thing gonna let me fly it?”

“With all the joystick practice you’ve had, I’d bet my life on it.”

“Natasha’s smirking at me. Why is she smirking at me? Clint knows, I can tell. Why’d you help them get together? Now they work as a couple against me!”

“I’ll never tell,” I sing-songed back, enjoying Sam’s discomfort, the knot in my stomach unfurling a little further with Sam’s laughing curse.

I’d missed this, missed being part of a group, belonging. Missed being a little shit to someone who’d only fight back in kind and not try and kill me, unlike certain planets that’ll remain nameless.

I’d missed feeling like a real boy.

“So, Sam, it seems my fate is in your hands. They steady?”

“As a rock, brother. This isn’t anything I’ve not done before.”

“Liar.”

“Steady. As. A. Rock.”

“You gonna get me home?”

“Hell yeah! Not that you’d know this, being a plant freak and all, but us pilots have something called professional pride. And besides, Cap’s all mopey as shit without you. I got no time for me anymore.”
“Hey, my barbershop quartet is back on earth, I got nothing to do but talk with you.”

“What is ‘barbershop’?” Thor asked, confusion more than evident.

“It’s something lame people do because they can’t get laid,” Clint answered, before yelping in a manner that suggested Natasha had ‘accidentally’ elbowed him just shy of his groin.

“I don’t think I understand.”

“Don’t worry about it, man. I’ll explain later. Maybe Captain Square over there even has some on his computer,” Sam offered.

“Oh, apologies. I think I misspoke. Care. I don’t think I care.”

“Bro, you just became your brother! I’m kinda impressed, but, uh, do you need some Thorapy maybe?”

I felt the tickle in my throat turn into a lump. In that moment, listening to my crew bicker, it just hammered home how far from home I really was. How isolated and alone. How truly far away from other people I was, that even talking with the closest people in the solar system required a delay of over 40 seconds.

Fuck, I really want to get off this shithole of a vacation destination.

No pressure or anything.

It wasn’t the first time I’d felt it, but when the cold fist of dread twisted my guts, I looked around at the gutted remains of the flight deck, at my first, best, last chance of surviving the Clusterfuck of Mars, and swallowed hard.

‘Don’t fuck this up. Whatever you do, don’t fuck this up.’

“All of you, I…” I sighed and tried to form the words again, talking over the spill of their words. “I don’t…you came back…” My voice was strangely flat, sounding deceptively calm to my ears, utterly masking how easy it would be for me to start bawling like a baby if I let myself.

The radio went silent, my first stuttering attempt of a thank you having reached Valkyrie. For all good it did given I sounded like a teenager asking out his first crush.

Nah, scratch that. I was fuckin’ smooth when I asked out Dolores back in Junior High.

Don’t listen to anything Becca might say about practising in mirrors for hours on end, or me throwing up from stress eating too many hotdogs when we went to the fairground.

I had gone over everything I wanted to say, time and again, ever since I heard Valkyrie had gone rogue and returned, but now I knew my crew could really hear me, the words didn’t seem enough, the gratitude too poorly expressed as I tried to thank them for sacrificing so much.

For me.

Maybe the mirror practising was key. I definitely don’t have any hotdogs.

“If you’re thinking of thanking us for coming back for your worthless Vanilla Ice ass, don’t bother.”

“Hey now, I’m happy to hear him be all appreciative of me. Or us. Us works too, even if it is my gorgeous self that’s gonna hook him in,” Clint blurted, talking over Sam.
“You shouldn’t have come back,” I growled. “You shouldn’t have risked so much.”

Even as the words left my lips, I was overwhelmed with a selfish gladness that they had, so incredibly, indescribably happy to hear from them, that it would be my crew that returned for me, that saved me. Emotional little shits ensuring that we all got here together and we’d all leave together. My blistered fingers flexed with the longing to hold them, to breathe them in, to feel the warmth and strength of their hold.

Even Sam.

Instead, I soaked in the sounds of their voices as they argued over each other, each bitching me out for being so stupid as to tell ‘em not to come back for me.

The stupid, amazing, gorgeous idiots didn’t seem to comprehend at all the gravity of the situation.

“You guys have given up another year of your lives for me. Your careers are probably fucked from the way CAPCOM’s being talkin’. I just…I just don’t know if I’m worth all this.”

“You are.” Steve sounded so sure, so utterly confident that there was no other answer to even consider. “You are more than worth it.”

In that moment, hearing his surety, his soul-deep belief that it would all be okay, that my ass was worth throwing away everything he and everyone else onboard had worked their whole lives for, I knew why people had followed him into the most dangerous countries in the world, why they’d risk literal death. God save us all if he goes the John Glenn route and goes into politics now his NASA career is probably over.

“Yeah. What he said. Plus, you’re gonna be bringing me coffee, in bed, every damn day of the return trip,” Sam replied, effortlessly breaking the moment and I couldn’t help my weak laugh.

“Every day, Wilson,” I promised, huffing at the thought of being back up on Valkyrie, at how certain the pilot sounded that the intercept was going to go right.

“Just so long as you’re good with waiting until after I’ve dragged myself up and had at least two cups. I’ve been without coffee for eighteen months.”

“Damn, no wonder you crashed your rovers.”

“I didn’t crash! I…I rolled and recovered. It wasn’t my fault! Mars is a bitch – the ramp wasn’t solid.”

“Hmmm-hmmm. Right. You about gave your boy a heart attack.” Hearing Sam so blithely calling Steve mine just about gave me one too, even if I thought it every day in my own head.

“Didn’t feel great from the driver’s seat. Did get to go sledding though, that was kinda fun. And only mildly terrifying and dangerous.”

“You alright?” Clint asked, professional curiosity lacing his tone.

“I’m fine, doctor.”

“You sure?”

“You like this with all your patients?”

“Get used to it. In eight days, you and I are booked for the physical of your life. Prepare to bend
“Not just the bunk, Sammy buddy.” Never let it be said I couldn’t be a little shit when I wanted, even when out of practice.

“Really, Barnes?” Steve said, voice strangely tight.

“Oh, I got plans.”

“I’ll bet you do. But first, we gotta stick to the plan ahead.”

“Yay, more talkin’ about strapping my ass into a bomb with no roof. Don’t get enough of that from Rhodey and his insane band of merry men. Speaking of, what went down with them? CAPCOM seemed all sortsa pissed when they told me about you guys coming back. They were real light on the deets, just that you were coming back.”

“We mutinied,” Natasha explained, utterly matter of fact, though a hint of smug pride peeked through in her tone. “Might have stolen the most expensive space ship ever built and forced their hand into doing what we wanted.”

“You did what?! Steve, I leave you alone for five damn minutes and you do what?!”

“I didn’t decide on my own!” Steve protested, the other members of the crew chiming in their parts in the decision.

“You coulda been home safe, all of you! Why the hell would you risk all that?”

“Fury was choosing to send another Zephyr probe, instead of the Avengers Initiative,” Natasha explained calmly, someone - probably Thor - silencing Clint’s excited yammering as he tried to tell the tale in his own, disjointed, way.

“Rhodey, Tony and Jane – we suspect - sent the Initiative to Thor by hacking a couple satellites and some other stuff you wouldn’t understand. It was pretty impressive. They thought we should have the right to make the choice given they’ve robbed us of any agency for months. We voted. We turned around.”

“For me?”

“Nah, man, for the sites. Don’t you know there’s a face on Mars?” Sam mocked.

“Yeah, mine.”

“Nah, it’s prettier than you. We’re coming to bring the sexy back to Mars.”

“It never left.”

“You keep telling yourself that.”

“Hey, it’s okay, Wilson. I know you left me here because of how much better looking than you I am.”

“Clint, can you run a full cognitive scan when we get his ass back on board, ‘cos I think he hit his head when he crashed.”
“Thor, was it Jane that came up with it? The Initiative? Feels just crazy enough to be her.” I asked, ignoring Sam.

“Oh, yes,” Thor stated proudly. “She would never allow such a travesty of an attempt to fail you, and so sent it to me. It was my honour to carry out her work and return for you.”

“Your wife is a real gem.”

“I have known that for a while, but she will appreciate being called such by you.”

“I always did have a way with the ladies. Cool name by the way, very comic book. Avenge away. Mars keeps trying to kill me.”

“It was Mars that made water from rocket fuel and blew you up?” Natasha queried sweetly.

“Uh, kinda?” I defended hastily. “I had to make the water because Mars doesn’t have any, so it’s Mars’ fault I turned the Hab into a fucking bomb.”

“Don’t do that again,” Steve ordered.

“Yes, sir.” I figured it was best not to tell him the trailer, all of ten feet away, was a bomb every few days when I electrolyzed my urine and a few litres of water.

Discretion is the better part of valor. Sometimes.

“Seen Marvin yet?” Clint asked.

“Nope. Have watched every shitty show on your drive though.”

“Even Dog Cops?”

“Yeah. You know the finale with the German Shepard, y’know Cupcake, that was taken into the drug-den of…” I deliberately trailed off, delighted to be winding Clint up again, knowing he’d not seen the episodes yet.

“Gah! Shut up, shut up! No spoilers!”

Too long without my friends had hollowed me out, leaving an empty pit low in my chest, one I’d systematically ignored over the long months of fighting for survival against a merciless landscape. This close to escape, with real human interaction, not just words on a screen, happiness trickled into my chest, easing the band around it.

Teasing my crew, hearing them, it was soothing wounds I didn’t even know I had.

“You sure? It was really good. When that dealer pointed that huge gun-”

“Don’t tease the child,” interrupted Natasha, her timing flawless even with the delay. “I’ve got to live with him for another eight days. When you’re up here to deal with the fallout, then you can tease him.”

“You’re no fun.”

“Oh, she’s a lot of fun,” refuted Clint.

“You ever want to find out how fun I am ever again, shut up,” Natasha shot back silkily.
“Yes, ma’am.”

I couldn’t help but notice how quiet Steve was being, how little he was contributing, when he was the one I most wanted to speak with.

“Hey, uh, not that I’m not loving talking to y’all, and I am, I really am, so don’t take this personal or nothin’, but can you guys, uh, you know-” I felt shitty about asking the others to leave, but I could tell Steve wasn’t going to open up with an audience, and I didn’t want one either.

Not with what we needed to say to one another.

“Fuck off?” Sam suggested, a smile evident in his voice.

“Yeah,” I agreed with a chuckle. “That okay? Me and Steve got some things to talk about. Ain't that I don’t love ya, ‘cos I do. I really do and I wanna talk to you all, but there's some shit Steve’s gotta hear, and I don’t need you listenin’.”

“Awww, they don’t want us to hear them get all lovey-dovey,” Clint cooed, and Bucky would swear that he didn’t need the radio to hear the smack Natasha gifted to the back of his head.

“Fuckin’ scram, Hawkeye!”

“Yeah, yeah. We’re going. Bye!” Clint made kissy noises into the microphone.

“Aww, Nat, you really lowered your standards!”

“I know. Be seeing you Bucky, real soon.”

“Sam?”

“Yeah, I’m going, I’m going.”

“Off to play with your joystick?”

Clint’s cackle was distant but still audible.

“You guys gonna be using billions of dollars of equipment for phone-sex?”

“No!” Steve denied hurriedly.

“Easy, doll. Not so fast! Sam’s got a good idea there.”

“Leaving, I am leaving! See you soon man.”

“Be seeing you.”

“Yes, you will.”

“Be well, my friend, and take care. I look forward to seeing you again soon.”

“Me too, big guy. See ya.”

“Bucky?” Steve asked, as though unsure I’d still be there.

Where would I go? So long as Natasha could maintain the signal, I was going to be glued to my headset, even if it was only to listen to Steve breathe. No matter how much it felt like my back was
on fire and my bladder might burst.

“Who the hell is Bucky? It’s King Barnes to you!” I claimed, trying to forestall the conversation I knew we had to have. The one I’d prepared for. The one I’d just fucking asked for.

What can I say, I’m a complicated asshole.

The one I still wasn’t ready to have, no matter how much I needed to make Steve understand.

“Hilarious.”

“I’m the full package, babe – I got brains, humour and an ass that don’t quit.”

“You’re an ass.”

I bit down replying with ‘yeah, but you love me’. I didn’t want to say it like that, flippantly like it was nothing. Not when it was everything.

“Buck.”

The despair and self-loathing in his tone told me everything about what Steve wanted to talk about, and I felt myself tense up, the morning’s breakfast potato threatening to make a reappearance.

"Steve." There was no way that the fucking idiot could miss the warning in my tone, but when had that ever stopped Captain Freaking America?

“What?” Steve choked out.

“Listen close,” I ordered, hoping like fuck I’d be able to get through without losing control and crying like a baby the way I’d wanted to from the first moment I’d heard Clint’s voice.

Or worse, yell.

“You dare try and apologize or say it’s your fault and try and take the blame for Mars being a shit, then so help me God, when I get up on that ship, I will make it my mission to punch you in the face!” It was a battle to keep my voice low, steady and as calm as I could, even and controlled.

I definitely failed on those last two. I’d been trying so hard not to get worked up, but it was so damn frustrating that I couldn’t make Steve understand, that I couldn’t drill the idea that it was just shitty luck into my love’s thick skull.

“It is my fault. It is my fucking fault, Bucky. That’s what a Commander does. They take responsibility. For all of it. I’m supposed to have plans for every situation, ever worst case scenario. I’m supposed to be able to cope with anything.”

“It’s not your fault.”

“The moment you were hit, the moment Barton told me that your computer was down, I was still so certain that you were alive. I knew you were alive, I could just feel it. Those minutes that I was looking for you, they were the longest of my life, but I was so sure that you couldn’t be dead because if you were I’d feel it. And then I left you there anyway. If I’d only searched more thoroughly...”

“If only I’d been two feet further back when we left the Hab. If only NASA had escalated the storm alert sooner. If only the bolt hadn’t failed. If only we’d left the Hab two seconds sooner or later. If only Mars hadn’t been Bowling for Buckys. I’m the fucking reigning champion of the ‘if only’
game, Steve, and I ain’t giving up my crown any time soon. Certainly not for some weak ass ‘if only I’d known that Mars is an asshole that was gonna try to kill people’ bullshit. You might look like a God, but you ain’t one.”

“Buck. C’mon.”

“Shut up. I don’t wanna hear it.”

“I should have done more. I should have insisted we tether to each other before leaving the Hab. I should have made us head to the MAV earlier. I shou-”

Steve’s voice broke off, and I took a steadying breath, ready to say something, anything, even if he didn’t know what exactly. Just anything to lift the shame and self-loathing off Steve’s shoulders.

“That's smart. Good strategy.”

Okay, well, maybe not anything.

“What?”

“Blaming yourself. Carrying all that guilt. How’s that been working out for you?”

After over a minute with no answer, I figured I wasn’t going to be getting one.

“Okay, so apparently I gotta spell it out for you.” I ached to be with Steve, to look in his eyes and just make him understand. I was certain that if I could hold Steve close it’d be okay. That I’d be able to convince Steve that it was all going to be fine, regardless of what happened with the intercept.

“You have to be angry-”

“Of course I get angry!” I winced as I couldn’t stop himself yelling. “But not at you, you fucking idiot. At the situation!”

“Which you wouldn’t have been in if it wasn’t for me.”

“Is the air real thin on Valkyrie or somethin’? Is Stark's ego contagious? Barton been slipping you shit from the med bay? I followed you, sure, but I got my own ass up here. NASA wanted me, but I had to work my fucking ass off to get on Valkyrie. And, doll, I didn’t do all that just because I was swooning over a pretty boy.”

“I should have searched more.”

“You did your fuckin’ job! The MAV wasn’t gonna survive that storm.”

“Another few second-”

“Wouldn’t have mattered.”

“You can’t-”

“The fuck I can’t!” I felt a swell of anger from somewhere, unknown and unbidden, burning hot in my chest as I fought to breathe.

To calm down.

“I’m not finding the right words,” I admitted, slumping back in my chair.
“You’re doing fine. I don’t wanna fight, Buck.” Steve’s words were hurried, as if speaking faster would allow his words to travel to me all the faster, and I’d not ride him about being a self-flagellating asshole anymore.

And ain’t that an image…

“Well, you’re shit outta luck because that’s all I’ve done for the last little while and I’ve gotten real good at it. So if I gotta fight you too, to get some sorta sense into that thick fucking skull of yours, then don’t think I won’t.”

“I just…every time I close my eyes, Bucky, I see the look on your face when the antennae slammed into you. I remember the sound of your scream as it tore into you. I remember reaching out for you and seeing you ripped away from me. I remember searching for you,” Steve took a stuttering breath. “I just keep thinking if I’d been faster, if I’d searched more…”

My heart broke as he took a deep breath, and I forced the anger back down where it’d come from.

It wouldn’t help anything.

“I was half buried when I came round, Steve,” I said softly. “I was nowhere near where I got hit…it wasn’t worth five other people dying. I’m not worth five more people dying.”

“I should have stayed-”

“Goddamn Irish Catholics, you run on tea and guilt and there’s no fucking tea in space! You don’t gotta carry this, Steve. You don’t gotta put those gorgeous shoulders to work, hauling that blame around, ‘cos I ain’t blaming you. The crew don’t blame you. Rhodey and Fury and Stark don’t blame you. My Ma, Becca, they don’t blame you.” I couldn’t have stopped the tears spilling down my cheeks if I tried, and I no longer had the energy for that shit.

“It wasn’t your fault. Not me gettin’ on Mars or me being here still. If you hadn’t wanted me for your mission NASA woulda been approaching me anyway. I’m good, Stevie. I’m really fuckin’ good at my job. You’re talking to the only person to ever colonize Mars.

“NASA wanted me, and Mars wanted me too. It was a storm. Act of God. And I know I can’t make you believe that today, maybe not tomorrow either, but one day, I’m gonna wake up next to you and you’re gonna believe it. Respect my decision and my feelings that this ain’t your fault.”

I waited, hands trembling with nerves and tension as I waited for Steve to respond.

To say anything.

“I’m coming for you,” Steve choked out, a vow that the universe itself could not shake. “I’m coming for you and I’m not gonna stop until you’re on my ship and with me.”

Steve’s voice was hoarse, but determination ran like steel through his words.

“Yeah,” I breathed. “Yeah, that sounds real good.” I sniffed wetly, blinking rapidly as I took some shuddering breaths, shaking out my trembling hands, adrenaline leeching outta my system anyway it could. My eyes felt gritty and a headache was looming just by my temples. I scrubbed at my face, swiping uselessly at the tears that still fell as I chose my next words.

“So here’s the deal – seein’ as how we can’t quite agree, we’re keeping this to happy topics, okay? Until I can look you in the eye and make you believe me, we’re keeping it to the weather, football, how drunk we’re all getting when we’re home, and shit like that.” I didn’t think either of us had the
emotional reserves to cope with anything more than that.

I knew I certainly didn’t, what with the way my moods had been roller-coastering recently and I really didn’t want to start falling apart now I finally had the man I loved on the phone.

So to speak.

“You’re cute when you’re bossy.” Steve’s voice was a little shaky, a little hesitant, his willingness to follow my lead clear.

“I’m always cute.”

Steve’s snort refuted that claim.

“Though currently,” I continued, warming to my theme as my tears lessened, “I kinda look like a mountain man, right now. Not so cute.”

“Oh?”

“Beard, long hair, wear the same clothes all the time, whole nine yards. I can’t smell myself anymore but I’m thinkin’ it ain’t no Old Spice.”

“You’re right. Not cute.”

“Hey! I make a beard look good!”

“You think I’d make a beard look good?”

“I think you’d look like a soft-core lumberjack.”

Silence reigned from Valkyrie, while I sniggered to himself. It wasn’t my fault that I’d seen Steve chopping wood one of the times we’d all headed out for a long weekend at the Odinson-Foster family home in New Mexico, the team Commander borrowing a too-tight flannel shirt off Selvig against the unseasonably cold desert nights before being sent to flex his muscles out in the yard, Thor busy with the grill.

In my defence, Darcy had been staring too. Selvig’s shirt had been having trouble with the breadth of Steve’s shoulders and arms before he’d started fucking around with the axe. It’d been a miracle – or some sorta punishment – that the seams didn’t rip on the first swing.

“What does that even mean?”

“It’s a good thing, babe. Don’t worry about it.”

“You’re nuts, ya know?” Steve laughed, light and surprised, and something about it just caused my heart to clench, hard and unexpected.

I really loved this guy.

And I wanted to hear him laugh like that every day. For the rest of my life.

However short that might be.

So, just in case…Just in case, I had to say it.

I bit my lip, running my tongue along the trapped flesh, hating that I was hesitating now, after
waiting so long to be able to say it. After all the times I’d had to swallow the words back down, lock
them away until I was free to say them.

It was time.

I took a couple deep breaths, letting them out slowly until I felt sure that he was steady, that I’d not
embarrass myself by blubbing part way through and dove in head first. It’d worked with
everything else I’d done so far.

Right?

What was one more time?

“So, uh, not that I doubt NASA’s crazy plan or nothin’, or you guys, I ain’t borrowing trouble,” I
rubbed my clammy palms along my thighs, “but I just gotta, uh, say it.” I poured every ounce of
feeling into the words, every moment of longing and every desire.

“I love you. I really love you.”

The next minute of silence were the worst of my existence, stomach twisted up and my chest so tight
I felt I’d never take another breath.

The sound of Steve’s shuddering inhale broke the silence.

“I love you too, Buck. More than I thought was possible. Even when you are a mouthy jerk.”

My laughter echoed around the rover, and this time it was happy tears winning the battle and spilling
down my cheeks. I’d known it, every inch of the way of my journey, even though I didn’t get his
response to my email until I fired up the MAV, I’d known how he felt.

But hearing it, knowing Steve’s lips and tongue had shaped the words, hearing the truth and desire in
his tone…

Hearing it was something else.

I didn’t bother stopping the sobs that welled up as Steve repeated his words, my hands clenching
compulsively as though I could reach across space and draw Steve to me, take him in my arms and
whisper the words into his ear. Paint them across his skin with my lips, whisper them into the
hollows of Steve’s hips, say them again and again and again until I was sure Steve understood the
breadth of my love, until he never doubt it, until his heart sang with it.

Hey, I can be poetic when I want.

“Fuckin’ punk,” I managed around the tears.

“The mouth on you. Lucky I love ya.”

“Can’t wait to get this mouth on you.”

Steve’s spluttering reply was worth every second of waiting.

“Bucky!”

“What?”

“We aren’t using governmental property to do that.”
“You’re right. We’re not. I’m damn well tryin’ though,” I swiped at my tears as he laughed. I was gonna chalk it up as another ‘first’ – interplanetary booty call.

“My friend says I have to take you dancing,” Steve said, trying desperately to divert the conversation away from another minefield.

“Peggy, right?”

“I got more than one friend you know!”

“Really? Huh, coulda fooled me. So if it’s not, Peggy…?”

“As it happens,” Steve said primly, “you’re right. Coulda been wrong though.”

“She’s a smart lady, I can really move when I’m motivated,” I drawled.

“So she tells me,” Steve answered, disregarding the latter half of Bucky’s sentence and definitely ignoring the way his heart raced at Bucky’s words, heat suffusing his cheeks, as his mind flashed up images of just how motivated he could make Bucky, how far he could push his buttons on a dance floor, Bucky’s firm body pressed against him from head to toe.

“I wanna meet her someday.”

“She wants to meet you too, god help me. Insists on us all going out dancing.”

“She bringing a partner or will I be shared around? Seems a little kinky for a guy I can’t talk into a little fooling around via airwave.”

Steve laughed, low and more than a little filthy.

“Her husband, Daniel, will be coming with her.”

“Dunno if I’m disappointed or relieved.”

“Peg is way too good for either of us.”

“I’d believe it. Probably too good for Daniel too, at least according to you. So dancing, huh? Gonna seduce me with your tango?”

“Not unless you wanna end up in the ER. I can’t dance to save my life.”

“Ain’t you lucky then, that you know a fella that can? We’re goin’ dancing, a week from tomorrow. On the Valkyrie.”

“You got it.”

“Don’t ya dare be fuckin’ late. Waited a long time for this dance.”

“We’re gonna have to play something slow or I’ll step on your feet.”

“Won’t mind. I can teach ya to dance. We’ll have lotsa time. Lots and lotsa time.”

“Yeah. We will.”
The last few days until intercept are upon us, and those in Houston, on Valkyrie and on Mars countdown until launch.

Log Entry: Sol 543

Fuck.
Me.
Sideways.

Seriously, fuck me.

I’m done.
I think, anyway.

The area around the MAV looks like a scrap heap. Actually, right now, the MAV looks like a scrapheap. But she’s ready to fly.

I hope.

In 6 sols I’m either getting back to Valkyrie or dying.

Talk about all your eggs in one basket.

There’s no way to test all the modifications – we’ll only find out if I’m gonna explode on engine ignition, when they’re lit. Some of the stuff is testable, and I’m running diagnostics and system checks all the live-long day while trying to figure out what sort of chance I have of this working.

NASA won’t tell me.

My crew, if they even know, won’t tell me. After that first overwhelming conversation two sols ago, we’ve been able to have two further communications, but every time I’ve tried to press them on the chances of success, they all clam up.

I get the feeling someone – not Steve or anyone on Valkyrie, I’d go to my grave believing that -made the decision to try and keep my spirits up by keeping me in the fucking dark and so my crew don’t know either.

It ain’t fuckin’ working.

So, I’m left with guessing.
I just hope the odds are better than for Challenger.

Mathematically speaking, for Challenger the probability of all the O-rings and field joints sealing properly was 0.87.

That means they had an 87% chance of lifting off perfectly. That’s a solid B. A perfectly acceptable grade. Hell, it’s a goddamn B+ even.

And look what happened.

I don’t even have a fucking hull in some places anymore and I can’t tell ya how many joints and seals I’ve fucked with…

I’m fucked, ain’t I?

“Catastrophic failure.”

Steve heard Nat’s voice long before floated silently onto the bridge, Sam having shut down the ship’s rotation once again in anticipation of the intercept.

“You’re going to have to do better than that.”

Sam’s curse was sharp and to the point as he yanked off his headset and threw it to the floor, twisting in his chair to face the systems expert.

“C’mon! At least give me a chance – there was no way the MAV was salvageable in that scenario.”

Nat, a smirk twisting her lips, turned in her own chair as Steve watched her tick a simulation off her extensive list. Natasha’s capacity to not so much put her teammates through their paces as pull them through backwards via their hair was powered by her pragmatic and tactical mind, the young woman was painfully aware of just how easy it was for something to go fatally wrong on launch.

She hadn’t come all this way to fail.

“Why, Natasha? Why?”

“You’re good, Sam. The best. But I’m keeping your ego in check.”

“But two of the main engines failing at liftoff? Failed navigation systems? Then premature booster disconnect? What’s the point?”

“Tomorrow’s the day,” Steve said as he dragged himself further into the space, gripping onto the back of his own empty seat to keep still.

“I’m ready,” the pilot reported. “I’m good. Nat threw the kitchen sink at me, even shit I had no chance of managing, and I got everything to orbit.”

“Except the catastrophic failures,” Natasha corrected.

“Don’t step on my moment! I got everything that could be gotten to orbit, to orbit. It was a waste of
time giving me half of that shit!”

“The point is keeping you confident not arrogant. And proving how hard you’ll fight to get the Martian back up here.”

Sam’s eyes narrowed dangerously at his friend, before he reached down to swipe up the discarded headset.

“Rack ‘em up,” he ordered as he turned back to his screens.

Leaving the pair to their testing Steve turned to Thor. “Course?”

“Perfect, Commander. We are within one metre of the projected course and within two centimetres of projected velocity. We are well on track to collect our errant crew-mate.”

“Good. Great. Barton?”

“Why am I always last? I’m a triple specialist and I’m always last!”

“Saving the best, Clint, saving the best,” Steve assured, cutting him off.

“Yeah. Right. Anyway, I’m all set. The long tether is in Airlock 2. My suit and MMU are prepped and ready.” The doctor took a deep breath and Steve just knew what was coming.

“I still think me going off tether is a good idea, Cap.”

“No.”

“I can do it!”

“It’s not going to happen, Clint,” Steve shut him down, tone hard.

“If it needs to, you’re gonna change your mind,” Clint insisted.

“We’re on course, it’s not going to need to.”

“It’s space, Cap! It doesn’t co-operate!” Clint pushed off against the wall, getting in Steve’s face.

“We’d find another way than putting you in danger!”

“Gentlemen.” Thor’s voice was soft as he pushed between the two. “My friends, do not forget what we have already achieved together. Do not let yourselves lose sight that we fight for the same goal; to protect and rescue Bucky. We are each other’s allies, not enemies. Do not lose faith now. Doctor, if the Commander has ordered it, you must remain tethered.”

Clint huffed and rolled his eyes.

“Fine. Fine!” He threw up his hands and pushed himself back down to Natasha’s side with a thump, glowering like a sulking child, Natasha patting his head and breaking off her conversation with Sam to whisper to him.

Thor clapped his hand onto Steve’s shoulder, offering him a smile. “This will work, Commander. You just have to have heart.”

Steve nodded his thanks, clearing his throat as Thor regained his hold on a handle set into the wall.
“Okay. Battle plan is obvious; Sam is going to pilot the MAV, Natasha’s going to sysop. Barton and Thor are going to be in Airlock 2 with the outer door open and prepped before the MAV even takes off. I know you guys are gonna have to spend 52 minutes cooped up in there, but I want everyone in position, way ahead of time. I don’t want any technical glitches holding this up. Once Sam gets Bucky up here, Barton’s gonna go get him.”

“He’s probably gonna be in bad shape,” Barton warned, eyes still hard as he stared his Commander down. “The MAV is gonna get up to maybe 12G to force it out of orbit and he might be unconscious when he gets up here, he could have broken bones, internal bleeding…”

“Good thing you’re the doctor then,” Natasha reminded him.

“And I shall be prepared to help you return with him,” Thor added.

“In case Thor does need to go out to help Clint, I’m backup for him to get them all back in. Everybody clear?” The rest of the crew nodded.

“Okay. There’s nothing left to do now but wait. Try and get some sleep if you can, if you can’t then I don’t give a shit what you do-”

“I’d have thought Captain America wouldn’t like that sort of talk,” Natasha chided with a grin.

“You know what, Romanoff? I’m taking sex off the table.”

“What?” Clint yelled. “That threesome offer was a limited time only ruse to lure Buck-”

“Not with me! Each other.” Clint relaxed for a moment.

“Hey! It’s very relaxing. Doctor approved even!”

“If you wanted to fuck your tension out, you should have stopped your girlfriend from being all sassy,” Sam laughed.

“I can’t stop Natasha doing anything!”

“I do not think even the Gods could stop Miss Romanoff.”

“Damn right they couldn’t,” Natasha nodding over at Thor with a smirk.

“Go! Disperse. Be someone else’s problem for five minutes,” Steve ordered.

“Actually, Cap, can I talk to you a second?” Clint asked, pushing himself away from the back of Natasha’s chair and floating towards Steve, grabbing his Commander by the wrist and tugging him towards the hallway. As he was dragged along behind the Doctor, Steve shot Natasha a look over his shoulder, but she just shrugged and turned back to Sam, queueing up the next simulation for the pilot.

Once in the hall, Clint grabbed onto a handle protruding from the wall and brought them to a halt, turning to his leader. But said nothing.

“Uh, Clint?”

“Yeah?”

“Something on your mind?”
“Yeah.”

“So you gonna say anything?”

“Yeah.” It sounded more like a question, but Clint swallowed a couple times and then looked Steve dead in the eyes.

“Will you not let me off-tether because you think I can’t do it? That I’m the weak link on the crew?”

Steve blinked in shock, jerking backwards away from his friend with enough force to set him to bump against the wall behind him and float back out into the middle of the hallway, before reaching out to grasp Clint’s shoulder tightly.

“No. Never.”

“You sure?”

“Clint, you’re the most resourceful man I’ve ever met. I don’t want you doing it because we can’t lose anyone. Not anyone and especially not our doctor. Besides, when we get Bucky back on board, we’re gonna need you more than ever to patch him up.”

Clint huffed, but his shoulders relaxed and his grip on the handle was no longer so tight his knuckles were white.

“I’m serious, Clint. If there’s a way to get him back without you detaching from Valkyrie, then you’re the guy to do it. You always find a way.”

“Well, you don’t got to get all mushy about it.” Despite his words, Clint’s cheeks burned with embarrassed pride and he leaned into Steve’s hold.

“Final checks are complete,” Tony said into his headset. “Timekeeper.”

“Go, Flight.”

“Time until MAV launch?”

“Time in 16 hours, 9 minutes and 40 seconds…mark.”

“Copy that. Prepare for - Hey, you! I see you.” Tony held the microphone closer to his mouth. “You, playing Galaga! You thought I wouldn’t notice, but I did. You think ‘cos daddy’s going home with the hot Media Director you can play games?”

Every head in the room turned to one particularly red tech, her cheeks flaming as she tried to hunch down in her seat.

“That’s right,” Tony said triumphantly, spinning around to watch Phil Coulson enter the room.

“The babysitter’s here! Don’t let them eat too much sugar, there’s money on the side for pizza, no TV with adult situations and I want them heading to bed at a reasonable hour.”
Unfazed by Tony’s showmanship, Phil just held out his hand for the headset, once again wishing that Fury would spring for a set for each Flight Director.

If he were really wishing for things, it would have been a fish tank in Mission Control, but he was realistic, keeping his dreams centered firmly in a realm where they might feasibly happen.

“All Stations: Flight Director shift change.” Tony slid off the headset and ran his hand through his hair, ruffling it up as he held out the headset to Coulson.

“All Agent.”

“My name is Phil, Stark. Just like it was yesterday and the day before and last week and last year.”

“Your name is Agent.”

“And that’s because?”

“The suits.”

“What’s wrong with my suits?” Coulson looked down at himself, smoothing his tie down and straightening his cuffs.

He rocked the Dolce and he knew it. The trio of suits had been a present to himself after his promotion and he’d had them tailored to fit his frame perfectly. He’d seen the wardrobe malfunctions Tony wore and considered the man to have no sense of understated elegance.

Or understated anything really.

“They’re suits.”

“What?”

“They’re boring, they’re all black, you look like a Fed and there’s no pizzazz.” Tony ticked each item off on his fingers, his expression suggesting that each was far, far worse than the previous.

“I don’t want pizzazz. They’re appropriate to my workplace. I like my suits.”

“So long as someone does, buddy, then that’s all that matters.”

Shaking his head, Phil pulled on the headset. “All Stations: Flight Director is now Phil Coulson.”

Phil didn’t bother trying to hide his smirk when someone, and he suspected it was Timekeeper, stage- whispered ‘Halle-fucking-lujah.’

“You’re gonna call me if anything happens, right?” Stark asked with a scowl.

“Yeah, Stark, I heard you the first five times you told me that.”

“Okay. We’ll, I’ll go home.”

“You do that.”

“But if anything happens-”

“If you don’t leave right now to go get some sleep, I’m going to taze you and leave you drooling into the carpet while I watch the screens.”
“You’re mean.”

“I’m the Director and you’re cluttering up my workspace. Go home.”

Above them, in the observation booth, Rhodey turned to Pepper, concern creasing his brow.

“That’s not good,” he said, Pepper nodding in grim agreement.

“He’s nervous. This is how Tony does nervous. Loud, obnoxious and exhausting. He’s not good at being uncertain.”

“I’ve noticed.”

“Have you noticed the press corps?” Pepper asked.

“I had to fight my way through them to get to my office this morning! They’re camped out everywhere. Don’t you have a room for them?”

“I had a room. A room that was actually too large for the few reporters that give a shit about space these days. But this? The press loves drama. I’ve got reporters from countries I’ve never even heard off. They’re sleeping in their vans and harassing anyone that tries to get to work. Well,” she corrected herself, “except Fury.”

“Would you cross Fury?”

“You already did.”

“Let’s keep that on the down-low.”

“You do understand that he knows, right?”

“I like to maintain a level of mystique when it comes to the Director.”

“It’ll all be worth it tomorrow.”

“I hope so.”

“Press keep asking – what role does Mission Control even have during the intercept?”

Rhodey sighed and rubbed his hand over the back of his neck. “Tony not told you?”

“Told me what?”

And wasn’t that just bloody typical of Stark? Announce to the world you’re every move, unless it’s something that genuinely means something to you, or scares the shit out of you, and you try to hide it from those that’d move heaven and earth to support you.

“Houston’s role in tomorrow, that’s why Tony’s so nervous. We got nothing. There is nothing we can do. It’s all happening one hundred and forty million miles, and 12 light-minutes, away. By the time we’d even receive a message from them, it’d be over.”

“Shit.”

“Yeah.”

“They’re really on their own?”
“Pretty much. We’ve done everything we can to help Bucky and Valkyrie get to where they need to be in sixteen hours and five minutes time, but from this point, it’s pretty much down to them.”

“Shit.”

“Yeah.”

“But they’re the best, aren’t they?”

“They are,” Rhodey confirmed, with as much conviction as he could cram into the two words. “If you want anyone doing it, it’s them.”

“I don’t want anyone to have to do it. The thought of it scares the shit out of me.”

“Join the club,” Rhodey gestured to the Control Room, at the flurry of activity as the shifts changed over, and instead of the mass exodus to the door, as would normally be the case, he watched as every single man and woman loitered by their station, finding something to point out on the screen or standing in silence behind the chair, watching the seconds on the countdown tick away. Whereas usually that sort of behaviour would have the new shift snapping at their predecessors, shrugging off their possessive holds and slapping their hands away from the controls, to a man, the engineers seemed to find comfort and strength in having their cohorts around them, some even encouraging others to sit on the floor beside them and stay.

Nobody wanted to miss a thing.

“You going somewhere?” Pepper pulled his attention away from the floor and over to where she was motioning to the small duffel by the door.

“I keep my promises.”

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**Log Entry: Sol 549**

So, I’m shitting myself.

Completely and totally shitting myself.

In four hours I’m going to strap myself into a bomb.

Sure, I’ve done it before. In things that were as perfect and beautiful as the MAV used to be. Not the shit-fest I’ve gutted it into being.

For fucks sake, it’s held together with seal-strips and glorified tarp!

Maybe I shoulda used duct-tape. It kept me alive this long.

Fuck me.

Okay, okay, I need to chill.

I need to breathe.
I need to keep calm.
I need to get the fuck off this fuckin’ planet already!
I’ve got four hours to launch. I’m already in the MAV, suited up and waiting.
What can I say, I ain’t good at waiting.
Technically I’m awaiting launch instructions, but let’s face facts, I’m just awaiting launch. It’s not like I’ve got anything to do with launch. I’m just a passenger. I just gotta sit here and pray and not shit my pants.
That’d be super unpleasant in my suit, especially as I ain’t got a diaper this time around.

Last night I ate the ‘Last Meal’ food-pack. I really hope it’s just the last food-pack on Mars, and not my last meal ever. While I ate it, and revelled in the fact it had flavour, I glowered at the little heap of 41 potatoes that I’m going to leave here.

That’s how close to starving I am.
They’d last me four days.
Four days from starving.
Fuck me.
I can’t believe there are going to be potatoes on Mars after I leave. How weird is that? I’ve left them in a container next to the container of samples that I took but can’t take. Maybe one day Ares Something will be able to collect them or a probe can come for them or something.

Maybe even those dastardly Space Pirates will have ‘em.

Hope they bring salt.

Still got the little rock for Rogers though. It’s in a tiny ziplock bag with the picture of Steve’s ma, tucked up inside my suit.

Shut up, I’m a romantic fuck.

This is it.

Once those engines fire, there’s fuck all I can do. There’s no abort or anything. I’ve got one chance, one opportunity and I don’t even have a hand in it.

When I left Earth, shit so fucking long ago, it was a big day, a day I’d been dreaming about since I could remember, a day I’d been training for seemingly non-stop since Steve had found me.

A day I’d sacrificed something I desperately wanted for.

But still, I wasn’t ready. Nothin’, not a fucking thing you can do on Earth, in a sim, none of it preps you to actually leave the planet.

It was an early morning launch, pretty much still the middle of the night, so at 2am we walked outta the crew quarters at KSC to the astro-van that’d take us to the Launchpad. Despite the early hour and that the Ares Programme was no longer a novel concept to the public, helicopters circled overhead and a team of SWAT-looking guys were with us at all times, holding some of the biggest
rifles I’ve ever seen.

Launch security is always tight but some fuckheads were pissed about a hearing-impaired guy goin’ into space and ‘taking the place of a real man’, not to mention the ‘Commie bitch’ and there’d been threats against us all and the launch.

Or maybe those guys were really there to make sure my suddenly sweating ass was actually gonna get in the van and not make a run for it.

The main thought running through my mind was ‘what the fuck have I signed up for?’. I woulda sworn that our armed guard were watching me, judgin’ me, silently screaming at me to ‘get the fuck in the van, you volunteered for this. Asshole.’

So I got in the van.

The only lights for miles around were the floodlights illuminating the launchpad, the Ascent Vehicle larger than it had ever seemed before. A gleaming monument to human ingenuity and imagination. The speed at which the astro-van left us at the base of the AV did not help the ass-sweating. Nor did standing there, tilting my head back to take in the twenty stories of spaceship that was gonna fire me off my home and away from my family. I’d never been close to the AV when it’d been all dressed up for a night out. All the drills and training were done without the boosters, no gas tanks, nothing that’d potentially cause an accident.

Now she was all gussied up, had on her best clothes, all ready to put her best foot forward. A real pretty bomb.

From way back, where the cameras and those that come to watch the launch can stand, you get no idea the sorta sounds and volume of the Launchpad. It’s ungodly. Steam hissing, fuel pumps, the metal skin twisting and groaning and screaming from the abuse incurred by freezing fuel being pumped in.

Which was about when the full realisation of what the fuck I’d signed up to do hit me.

What the fuck did I think I was doin’ here? I was a fuckin’ botanist from Brooklyn, for fuck’s sake. I was just some kid that’d grown up with stars on my ceiling and in my eyes.

Who the fuck was I kidding with this astronaut bullshit?

So, looking to receive some form of comfort or support, I turned to my crew to share my ball-clenching terror.

To find Sam, aka Asshole of Assholes, smiling like it was his job and high-fiving Steve and looking cool as a cucumber. Steve, the little traitor, was looking excited. Thor, one of my fellow space-virgins, was practically bouncing on his toes in anticipation of getting into the AV, delight rolling off him in waves. Nat’s expression was, as usual, incomprehensible.

But Barton…

Good ole Hawkeye.

While everyone else was clearly insane, apparently happy to strap themselves into a bomb to head millions of miles from home, Clint was staring up at the thing before us with a lax jaw and wide eyes, in a trance.

He looked exactly how I felt.
“Clint.”
No response.

“Clint.”
No response.

“Hawkeye!”

He turned to me, white as a ghost.

People asked me all the time if I was scared of going into space. Seeing Clint, laid-back, rarely-frightened Clint lookin’ like that? Hell yeah I was fucking terrified.

This was a really shitty idea. Whose idea was this? Why was I doing this?

Oh. Right.

Mine.

Launch is really weird.

It’s this head-fucking blend of adrenaline rush and ball-busting tedium. Before you hit the elevator that’ll take you 90ft off the ground, you all gotta visit the ‘Last Toilet On Earth’. I ain’t kidding, that’s what it’s called. After that, it’s diaper time until you’re on Valkyrie.

Then you wait.

You head up to the entrance port and then you’re taken across one at a time. We entered the AV in our Mars exit order so I hung out on that access arm for what felt like half of my fuckin’ life, alternating between excited and regretting every single damn life choice that led me to the moment I was in.

When they come for you, it’s to take you to a small white room and the ground crew stuffs you into your parachute harness. Then it’s one last wave to your family via CCTV and then into the AV. It’s real cosy in there, despite its size, hence the one at the time schtick. Commander and Pilot, plus two others sit up in the flight deck and for us, that was Steve, Sam, Thor and Nat. Hawkeye and I were relegated to mid-deck.

AKA the land without windows.

The the amateur BDSM begins.

Ground Crew starts strapping you in, both to your suit and your launch couch. The emergency oxygen bottles installed in your harness are inspected and re-inspected. The suit's liquid cooling system is checked to verify it's not leaking and is functioning properly. There are parachute inspections and suit pressurized leak checks, as well as an "end-to-end" check of the communications systems. Suit techs then muscle the first crew out the way to pack your pockets with survival items such as flares and radios, along with the lanyard to help reach the suit zipper ‘cos you can’t do it alone, especially in the gloves. Crew members may also carry a variety of personal items, such as a pen, pencil, flashlight, glasses, watch, wrist mirror and more. Last, we get latched into our gloves and helmets and all seals are checked.

All while you lie there, about as useful as tits on a bull.
Mid-deck passengers get no windows so Clint and I had a riveting view of lockers. For four hours.

We chatted amongst ourselves for a while, Clint and I playing Hangman on my kneeboard until the bastard went and fell asleep. How, I dunno. My adrenaline was outweighing my tedium levels, keeping me keyed-up and alert despite my best efforts to breathe and calm down. Part of it was probably because you never know you’re going until you go. NASA can cancel launch right up until the engines are lit.

But then there was only an hour to go, and I woke Clint up to share in the wait.

It seemed the friend thing to do.

Then there was thirty minutes.

Then ten.

Then one.

Which was when shit got serious.

That’s when the beast on the Launchpad wakes up. At six seconds the main engines light and the whole fucking AV lurches and jumps, raring to go. Then at zero it settles and the rocket boosters light and you’re off.

Before you clear the tower you’re going over 100mph. By the end of the 8.5 minute flight you’re travelling at 17,500mph.

And trust me, you feel it. None of this ‘huh, am I even moving?’ bullshit.

It’s unreal.

You got no control. Fuckin’ none. All the training on what to do if launch is fucked – bailing, parachutes, emergency landings – all of that is fucking pointless. It’s just bullshit designed to make us feel good about climbing into a bomb.

Security theatre at its finest, ladies and gents.

The launch is good or it isn’t.

No amount of quaint little safety signs or placards on the interior of the AV is gonna do shit. It’s there to give you something to read before you die.

But after a minute or so you start to think you might actually survive this insanity.

Which is about when another thought hits you.

You’re leaving.

Leaving, leaving.

Before that day, I’d left my childhood home. Left the state. Let’s the country. But now…now I was actually leaving my planet. My home, my family, everything.

Which meant I spent the next 7.5 minutes ruminating on that. You can’t really say much as your mic is live and I’d already gotten sent to remedial Comms training about what is and isn’t acceptable to say over a live public mic. You don’t wanna accidentally distract any of the guys up in the window
seats.

So you lie there. Listening to the deafening roar of engines that could still kill you at any time, getting thrown around as the AV shakes and shudders and fights its way outta atmo. For about three minutes you feel like you’re weighing about three times more than you actually do and you can barely breathe against the feeling of bricks sitting on your chest.

That does not help your emotional well-being.

Then, just as you think this is the end, that you’re gonna croak in the most controlled violence ever created by mankind, it’s over.

As you leave atmo, the bolts holding the AV to the fuel tank blow, two muffled explosions that were trained to expect but still end up thinking are heralding your doom, and the roar just stops. All you can hear is the cooling fans.

You’re in space.

It’s eerie as fuck.

But no matter what your body is tellin’ you, you ain’t actually stopped. You’re just not accelerating anymore, but you’re still hurtling at 17,500mph away from your home. It’s disorientating as fuck to feel like you’re sitting upright stock still, when you know you’re actually lying down and travelling way too damn fast.

I actually wondered if I was still alive.

Took me a minute to answer.

And today, I get to ask myself that question again.

There’s a fucking real chance I’m going to die today. Can’t say that isn’t making me feel like I’m gonna vomit up that food-pack.

If this does go to shit, it’s gonna be one of two ways.

Either the MAV explodes, in which case it’ll be quick and painless and I won’t even know it is coming, or the intercept goes to shit and I’m just left in space.

I’ve prepared for that and made a plan. If it happens, I’m going to drop the O2 mixture in my suit to nothing, backfill with pure nitrogen and just breathe that until I suffocate. It’ll be slow and painless; your lungs don’t have the ability to sense the lack of oxygen in the air you breathe. I’ll just get tired, fall asleep and die.

After all the shit I’ve been subjected to up here, painless seemed the way to go.

But enough of that maudlin shit.

Remember all those firsts I had up here?

Fuckin’ thousands of ‘em.

Now I’m having my lasts.

Last Martian potato.
Last night’s sleep in the rover.
Last night’s sleep on Mars.
My last EVA on the surface.
I’m fucking leaving, one way or another.
I’m leaving in a junk-heap, don’t know if I will even live. Oh babe, I don’t hate to goooooo.

Chapter End Notes

To anyone who doesn't remember/doesn't know, OV-099 otherwise known as the Space Shuttle Challenger exploded 78 seconds after launch, killing all seven of the crew. Immense O-rings sealed field joints, ensuring the rocket fuel remained where it was supposed to and that the burning gasses released from burning the solid propellent was fired out the back of the engines to create thrust. Every single O-ring was required to be holding in order for take off to occur without failure. It was a known flaw - for more than nine years - that if those O-rings got too cold, they shrunk, and no longer formed a seal, but it was never addressed properly. On the morning of the Challenger launch in '86, the temperature was far lower than expected, FAR lower than the tolerance of the O-rings (there was no data to suggest at all that the O-rings and other components would tolerate a launch in those temperatures). One of the o-rings failed, allowing burning gases from the solid propellent inside to vent where it shouldn't, impinging another joint and the external booster. the resultant forces ripped Challenger apart. This tragedy grounded all space travel via Shuttle for three years while all of the solid rocket boosters were massively overhauled.
Bring Him Home

Chapter Summary

The time has come.

The world gathered.

Everywhere, they gathered.

In shopping malls, staring at screens, in football stadiums watching the jumbo-trons, in living rooms and office break rooms, around radios and laptops, phones and public-address systems.

People linked hands and prayed with loved ones. Held hands of strangers and friends. Streets came to a halt as people crowded around storefronts projecting the mission. Strangers shared meals and drinks and supplies with others that had come to wish Barnes well.

From London to Beijing, from Hong Kong to Sydney, from Rio to Vancouver, everywhere, people came together.

In Houston a handful of young scientists sat on the floor in a cafeteria, heads huddled together as they craned towards one of the many speakers set up on the floor, hands tightly held together, the lips of more than one moving silently in prayer.

In Pasadena a quiet man’s office was standing room only, an entire team crammed into a too small space, but for once not a word of complaint was heard.

In Wakanda a palace had come to a halt, royalty and citizens alike filling the throne room as a princess hacked into NASA’s feed rather than rely upon the news stations.

And all of it for one man.

A stranger.

In Brooklyn, a middle-aged woman held her daughter’s hand, a rosary held tight in her other hand, lips moving as she prayed, eyes on the screen. Opposite them on a recliner sat Peggy Carter, radiating a calm, assured grace even while conversing with a Loki who was as confused as everyone else as to why he’d chosen to accept Becca’s invitation. On the floor between them, Marissa held baby Michael on her lap, his chubby arms flailing as Barney and Natasha’s dad pulled faces at him and made him laugh and squirm, the young child uncaring of the enormity of the moment soon to come.

Behind the couch, watching over them all stood, silent and strong, stood Rhodey. He’d arrived a few hours earlier with a small, but intimidating, contingent of security that Stark had hired to ‘keep the rabid wolves at bay’ who were currently outside doing a stand-up job of keeping Press and public alike away from the small group of worried family members inside. An unobtrusive earpiece kept him apprised of what was occurring in Mission Control and of Stark.

As much as he longed to be in Houston, he’d made a promise.
Across the globe, Romanoff’s voice was heard.

“Fuel pressure green. Engine alignment perfect. Communications five by five. Commander, we are ready for pre-flight checklist.”

“Copy,” came Rogers reply. “CAPCOM.”

“Go,” answered Romanoff.

“Guidance.”

“Go,” repeated Romanoff.

“Remote Control.”

“Go,” Wilson replied.

“Pilot.”

“Go,” Barnes yelled from the MAV.

The world waited.
Finds and Shall Find Me Unafraid

Chapter Summary

“Mission Control, this is Valkyrie Actual,” Rogers continued. “We are Go for launch and proceeding in T minus four minutes, ten seconds…mark.”

Chapter Notes

See the end of the chapter for notes

One day, I’ll die.

We’ll all know that we’re gonna die.

My concern is that ‘one day’ is gonna be today for me. I’ve lived with that shit for way too long, I should be a fuckin’ pro at dismissing it, but here’s the thing…I’m still scared. Every single time I fuck up, every time it looks like I’m cashing in my chips, it ain’t routine, no matter how much I like to laugh it off and pretend that I eat danger for breakfast.

Ain’t like I got much else to eat up here.

I might really die today.

That thought alone is enough to make me almost shit my pants.

Not ‘exploding Hab’ or ‘Hail Hydrazine’ kinda die. But, ‘my ride looks like it was parked at the wrong end of town, I ain’t even drivin’ it, and the acceleration is gonna be just this shy of killing me’ kinda die.

And assuming even all my fuckin’ around hasn’t ruined the MAV beyond the event horizon of ‘no longer space-worthy’, there’s still the possibility that there’s an inherent fault, and seconds after ignition, I’ll disappear in a ball of fire, with what’s left of me coming down as red snow across the Basin.

Some real appetising options right there, huh?

“It’s gonna be one fucking hell of a ride, Houston."

Best thing about swearing with the delay and how NASA is just broadcasting it live as it comes and not censoring it? I can swear, and there’s fuck all they can do about it.

Silver linings everywhere, you just gotta know where to look.

“And don’t make me say this again – no phone calls off site, outside of this room or at all. Our discussions are on these loops on the recorded DVS loops only. No data, no phone calls, no
transmissions, are you hearing me at the back?"

A chorus of affirmations came back to the man at the front of the room.

Tony stood in front of his station in the Flight Control Room, headset firmly fitted, one hand flicking against the bowl of peanuts that Bruce had insisted had to be in the room. He was watching over the panels of every station, though he knew it was likely pointless. With the time delay, there was nothing anyone in the room could do.

Nothing anyone on Earth could do.

For the past four days Tony been running simulations of the launch and retrieval scenario, relaying every single byte of data up to Valkyrie, overloading the crew with information, much of it of no use. It had been a crisis packed run-through of a hell launch from ignition to airlock closure and he’d been dubbed ‘Stark-tator’ for his ruthlessness. Numerous shifts of controllers had cycled through the FCR, sharing horror stories in whispers in hallways, Tony cherry-picking from those he found to cope best with the stress he threw their way.

The complaints that it was all pointless as Houston would have no role to play fell on deaf ears.

As a result the two dozen or so controllers in the room were exhausted and haggard, the room thick with a distinct, and unpalatable, lived-in aroma that was a mix of fast-food and body odour. Trash cans were overflowing with empty coffee cups and Red Bull cans, the occasional burger wrapper balled up as decoration. Tony could definitely detect dissent from the Trench, now that the time of plotting launch trajectories and flight paths was over. He was pretty sure the flight dynamics officer was plotting his gruesome and horrific murder.

Tony didn’t have the energy to give a shit. With Rhodey in Brooklyn and Pepper with Fury, he was starting to crawl out of his own skin, even the oddly soothing presence of Coulson at the back of the room not calming his nerves.

He hated being helpless.

It was a foreign feeling that he ran from at every opportunity.

But the running was over.

As the Ares 3 Director, Stark had wielded a considerable amount of power when it came to both the AsCan shortlist and the final crew. He’d attempted – and ultimately failed – to maintain a professional, stand-offish, distance from the crew, for all the good it’d done. NASA had been a dream he’d always held for himself, a secret kept away from a cold world and colder father. Dreams were for other people, not for Starks, not for the heir apparent of a multinational, multibillion dollar company, and so he’d pushed down the little kid inside of himself that had dreamed of flying, of piloting a craft beyond all of science’s wildest dreams. He’d gotten so very good as it he’d almost convinced himself that he’d never wanted anything more for himself than $10,000 suits and boardrooms. Until he’d left S.I. and rediscovered his dream, he was so sure he’d perfected the role of asshole that didn’t play well with others, that when he was given his own crew, he was convinced that he’d be able to keep the people at arms-length.

It was one of the time he’d admit to having been an idiot. Being in the FCR, listening to his crew, a group of extraordinary people brought together for an extraordinary purpose, stuck being nothing more than just decorative, Tony’s skin crawled. They were his, and he could do nothing to help them, give no aid, once more be the saviour of nobody.
He stared up at the image someone, probably, Foster, had put together, the perfect flight plan for the launch, the path marked by a dashed red line, the Valkyrie a blinking blue light high above it.

All they needed now was a miracle, and Wilson had only one chance to provide them with one, to do what had never before been attempted. And it all started here.

“C’mon, Rogers,” he muttered, “let’s hear it. Let’s hear the rest of the checklist.” He knew the crew knew the oft-practiced procedure off by heart – it was the only way when everything happened so fast; procedure was an astronaut’s safety blanket.

“Telemetry,” Rogers voice boomed over the speakers as he ran through the checklist, Tony reading through his own copy on his screen as Rogers worked through it.

“Go,” Romanoff responded.

“Recovery.”

“Go, go, go,” Barton said, voice tinny from being in his suit, waiting in Airlock 2.

“Secondary Recovery.”

“Go,” Odinson’s voice had the same quality of Barton’s, standing in the airlock next to the doctor.

“Mission Control, this is Valkyrie Actual,” Rogers continued. “We are Go for launch and proceeding in T minus four minutes, ten seconds…mark.”

“You got that, Timekeeper?” Tony barked, instantly homing in on the man in question.

“Affirmative, Flight. Our clocks are in sync.” Up on the big screen, the time flashed up, red numbers counting down to the launch.

“Come on, come on, work. Fucking work. We got a plan, just stick to it, just work.”

“Flight?”

“Nothing, talking to myself, ignore me.”

“You do make that a rather difficult undertaking,” came the reply from Telemetry.

“Thank you for that, Jarvis. Your input is, as ever, appreciated.”

Up in the observation room, Pepper and Director Fury were almost exactly where they’d stood months previous. Fury stood at the window, at ease, arms linked behind his back as he watched the goings on in the control room, radiating a quiet, but deadly, air.

Pepper was back to wearing a hole in the carpet as she paced, the entire table covered in laptops and tablets and screens, the back wall TVs tuned to all the major networks news programmes.

There was one difference, though.
This time, there were no files on the table.

‘We have no downlink.’

Sam couldn’t shake the words from his mind, even as he listened to his crew confirm they were good to go. It’d plagued his nightmares ever since he’d requested from Houston the complete accounting of the Mad Max Mods Barnes was carrying out on the MAV. Initially it’d been simply to familiarize himself with the bastardized craft, but as he’d read, as Princess Shuri had sent him the specs for the holographic representation, he’d found himself unable to not compare the Mod-MAV chances of success to those of Challenger.

He’d not even been born when Challenger had exploded, wouldn’t be for almost a decade, but from the moment he’d first attended Space Camp at the ripe age of eight, he’d known of the disaster. Years later he’d researched the launch and first heard the chilling words, seen the videos, heard the last words of all aboard.

In the years since, Sam had turned his interest away from the stars and towards the military, joining up at 18, leaving his mother’s house for Uncle Sam’s, and packed his daydreams of orbiters and space travel away. He’d never thought of the words again until a fateful night outside Kandahar, when his unit commander had plainly stated ‘we have no comms link on Exo, no link,’ as Sam could do nothing but watch his friend plummet to earth, pack aflame as it span.

He’d struggled with continuing to serve, so when time had come again for NASA to solicit applications, Sam had taken his fifteen years of military experience, his qualifying BSc in Aeronautical Engineering, and his several thousand hours of command pilot time and passed his application up through the chain of command. He’d refused to let himself hope, after all, he knew he had less than a percent chance of getting through the process, but it was that or retire.

It was becoming an AsCan.

But once again, those fateful words followed him. They’d rocketed around his brain the entire time he was being strapped into the Ascent Vehicle. Once the booster were ignited, the die was cast, there’d be no abort, no calling it off, no getting out.

Just like then, he now held Bucky’s life in his hands; the second he initiated the firing sequence and the Mod-MAV’s engines lit, it was going to work, or it wasn’t. Sam had always prided himself on dealing well with high-stress situations, but he really needed a vacation.

Or to retire.

Taking a deep breath, Sam rubbed at his temples, as though attempting to erase the images of a white plume disappearing into a perfect sky, of a launch that appeared pristine and was anything but.

Sam didn’t need perfect. He knew they all needed a god-damn miracle and Sam wasn’t gonna be humble about his piloting skills – he was the best, the only one capable of getting that pile of bolts and duct tape into atmo and the man inside back to Valkyrie.

He could do this.

He would do this.
“Buck?”

“Hey.”

“We’re going in about four minutes, you doing okay?”

“I really fucking hate this plan, but I’m fucking ready to leave Mars, so let’s do this thing.”

“Language!”

“Are you seriously chiding me on my language? You?!”

“We’re being broadcast around the world, Barnes.”

“Yes, sir, Mister Rogers, Sir.”

“Jerk.”

“Punk.”

“Hey, do you own any cardigans or sweater-vests? We could do a little roleplay…”

“Barnes. The world is listening to this,” Steve sounded strained.

“Alright, alright.”

“You sure you’re ready?”

“More than, man. I miss that espresso machine, I gotta get back to it.”

Rogers chuckled down the comms.

“That’s what you’re most looking forward to?”

“Is there something else I should be excited about?” Bucky asked, sly. “Something I might get told off for by Grandma Rogers for talkin’ about?”

“Probably not.”

“Funny guy.”

“Hey, remember, you’re gonna be pulling some serious G’s while Sam gets you up here so it’s okay to pass out. Barton can bring you in unconscious, it’s not an issue.”

“Tell that fly-boy I don’t wanna be doin’ any loop-de-loops. This Buck ain’t kicking the bucket now.”

“Aww, man, why you gotta rag on my style?” Wilson complained down the comms.
“Nothin’ fancy.” Bucky repeated.

“But that’s the only way I know how to fly, brother! The only way I fly.”

“I ain’t kidding, Wilson. This ain’t no display flight.”

“Can it, fellas,” Steve ordered.

“Copy that,” Bucky surrendered with a chuckle.

“Three and a half minutes,” Wilson announced. “Everybody ready to do this?”

“Have I ever not been ready?” Romanoff asked.

“True enough. It’s gonna be strange doing a launch without being in the vessel.”

“Wanna trade places?” Bucky asked.

“Not on your life,” Wilson declared.

“It is my life, Wilson!”

Down in Airlock 2, Clint floated, already tethered to the hook point on the wall by the outer door. It would be at least 45 minutes before he’d even have to do anything, but he was ready, adrenaline pumping, desperate to get his friend back, wanting the countdown to be over, but also terrified of hearing the MAV exploding on take-off.

Through the little window, Clint could see the swirls and clouds of the infamous dust-storm as it trekked its way across the surface, moving safely away from Barnes and the MAV. Mack’s team had been religiously tracking it, ensuring the winds wouldn’t interfere with the flight path, keeping Wilson, and an ever stressed Rogers apprised several times a day.

The last thing anyone from Ares 3 needed was another obstacle.

With on hand gripping the tether port, Clint braced the fingers of his other hand over the window, tracing the eye of the storm idly. Though he bobbed weightlessly in the area, he felt heavier than he could ever remember, grief and the burden of guilt pushing down on his chest.

He’d been the one to declare Bucky dead, the one to urge Steve to return to the MAV or die too, the one to give up hope. He’d been the one ten seconds away from over-riding Steve’s command and ordering Sam to launch with or without the Commander on board. The world and his wife knew the guilt that Steve carried, but few would have imagined that Clint shouldered the same.

So far, the best he’d been able to allay it had been in caring for his crew, in looking after the friends he had left, doing everything in his power to protect them, and working double time to appear positive, always the first to suggest a game or a movie, trying to lessen the emotional turmoil of Valkyrie’s other inhabitants, the stress of living so long in confinement already troublesome without adding mourning.

“How are you, my friend?”
The voice was inhumanly loud in his helmet, and Clint released the port, spinning around and getting himself coiled up in the tether.

A couple feet away from him stood Thor, magnetic boots keeping him upright, ready to give him the leverage to pull his teammates back inside. If anyone had told Clint two years ago that the outgoing Norwegian would become one of his closest friends, he’d have laughed in their face. Back then he’d thought Thor too ‘too’. Too loud, too outgoing, too pompous, too self-assured, too much getting to the coffee pot first and draining the damn thing dry without ever making a fresh pot. In short, he was too much like every fucker who had ever beaten Clint up for his lunch money or taunted him about his dead parents. Add in that Thor was a certified genius, model gorgeous and had the body of a god had all determined that Clint would likely have loathed Thor on sight had he been a little less hungover at the AsCan ceremony.

For which Clint still blamed Barney’s terrible influence.

All of it had changed however, a mere six hours later, when Thor had saved Clint’s life when the loser in the bar fight that Clint and Wade had maybe, sort of, potentially started pulled out a knife and had intended to introduce it between a couple of Clint’s ribs. Since Thor had intervened, Clint had had cause to be grateful for Thor’s presence again and again. Not least of which when they’d gotten confirmation of Barnes’ survival. Thor had sat with a sedated Steve for hours, one immense hand wrapped around the Commander’s wrist as he sat on the floor, back against the bunk, speaking in a low rumbling voice, offering what comfort he could.

For all the man came across as a goddamn golden retriever in human form, Thor had experienced deep and scarring losses and his compassion for others ran deep.

Clint shot the man a smile, creasing his cheeks but not reaching his eyes.

“Whaddya mean? I’m always happy, my face is just super misleading.”

“You are sure?”

“Would this face lie to you?”

“On many occasions.” This time Clint’s smile was genuine, though fleeting.

“Nobody’s perfect.”

Thor could only nod within his helmet, more than aware of his own failings.

“Speaking of,” Clint continued, “our illustrious Commander isn’t perfect either. He’s making a mistake not letting me go untethered.”

“Doctor.”

“If I…If I can’t reach him, I want you to release my tether.”

“I – Doctor, the Commander has made his position on this quite plain, I -”

“I know that. But I can do this, I can get him and I want you to release me if I think I can do it. Come on, you’ve seen me in training; you know I can do this.”

Thor looked torn, gaze flicking from Clint’s earnest face to the planet below as though he could seek out where Barnes sat, waiting in the MAV, as if Barnes could give him the answer.
“You are already attempting a dangerous task, do not make it more difficult for yourself.”

“Difficult for myself? I was born difficult for myself. Come on,” wheedled Clint. “I have the Manned Manoeuvring Unit, I’m good at this. You’ve got to give me the extra reach if I need it.”

“What if you cannot-”

“I’d rather die knowing I tried than miss my friend by inches. I’m a boomerang, baby. I’m always gonna come back.”

“I cannot-”

“It’s my life, Thor. It’s my choice,” Clint implored. “We’ve already gone against the rules to come back here. Don’t let us fail now for a few feet. We’ve already mutinied already, don’t make it for nothing. Please, Odinson. Just do this for me.”

Thor stayed silent.

“Come on! It’s my life, and sure it’s busted up and kinda a mess, and sometimes the only thing holding it together is hope, but it’s mine. It’s mine and this should be my choice. I can make this work, Thor. It comes down to it, I want you to release the tether.”

Thor’s eyes narrowed, and he cocked his head to the side within the immense helmet, an odd sight when the large glass bubble didn’t move at all.

“Surrender isn’t in my nature,” he intoned at long last.

Clint frowned.

“Does that mean you’ll do it?”

“T-minus 10,” Romanoff began the countdown, “9…8…”

“Main engines are go,” Wilson announced.

“7…6…5…mooring clamps released,” Romanoff continued.

“Five seconds Bucky, hang on.”

“See you in a few, doll.”

“4…3…2…”

The MAV shook around him as the engines fired, take-off imminent, a not wholly encouraging sign.

“It too late to take a pis-”

The MAV launched with more power than any other manned aircraft in history, slamming Bucky back into his acceleration couch with such force he couldn’t even grunt, let alone swear.
He’d known that he was gonna end up attempting to become one with the couch and so he’d tried to pad it out a little, particularly behind his head, wadding up a shirt inside his helmet, cushioning his head and neck as much as possible, but it still felt like solid rock with how hard he was being pushed into it, as though he were attempting a crude craniotomy via his helmet.

He couldn’t move.

He couldn’t breathe.

He could barely see.

Unfortunately, right in front of him was where Hull Panel 19 used to be, so what he could see was the canvas that was holding the vessel together flapping violently as the ship hurtled faster and faster up towards Valkyrie.

Barely conscious, confused and barely able to think, Bucky had a vague notion that what he could see wasn’t a good thing.

He just couldn’t remember why.

“Velocity is 741mps,” Romanoff called, “altitude is 1350.

“Copy.”

“That’s too low. Why is it so low?” Rogers asked, hands flying over his terminal, a blue blip marking Bucky’s travel along the projected flight-plan, well below the red blip of where the craft should be.

“It’s fighting me, that’s why,” Wilson grit out as he manipulated the controls, eyes glued to the screen in front of him. “What the fuck? It feels heavy, like the damn Hulk is in the thing.”

“Velocity 850, altitude is 1843.”

“It’s still fighting against me, I’m not getting the power I need from it. What state are the engines in?”

“Engines are at 100%.”

“Doesn’t feel like it.”

“Barnes?” Rogers asked, “Barnes can you tell us what’s happening?”

Bucky could hear Steve’s voice, but it was faint, as though in the distance. He tried to cling to that voice, to follow it back to consciousness, but instead he found himself slipping further away, the voice in his ear fading further.

He knew he was supposed to understand what he was being asked, that he was meant to respond with some information his crew needed, but he couldn’t fathom what that was, or why it was important, his vision blurry as he stared at the rip in the canvas in front of him, the edges flapping
hard with the MAV’s ascent.

There was definitely something wrong with that visual but he couldn’t think of what it was, let alone how he was meant to be telling his crew about it.

He watched as the canvas tore further, the material flapping inwards to reveal a red sky stretching out in to the heavens.

He soon forgot that there was something he was meant to do, lost in watching the sky.

Despite the lower velocity, the MAV still rocketed upwards and the atmosphere grew thinner, the resistance lowering and soon the canvas stopped its flapping as the sky merged from red to black.

Bucky had never been scared of the dark. Darkness could be a comforting thing. After the crushing pain of take-off, and the lung-busting desperation of acceleration, the darkness promised a beautiful relief.

It was so easy to sink into it. To ignore the distant chatter that rattled around his helmet like so much irrelevant noise, words that he could barely hear let alone understand. It would be so, so easy. He wouldn’t even have to do anything. Just…stop. Just let go. Slip away from the pain in his chest as he struggled to breathe, the unbearable agony of the weight of his body, the random flashes of lights that sparked across the back of his eyelid, bright Martian red and long-forgotten ocean-blues.

All he had to do was slip into the darkness.

So he did. He did, and as he let the darkness slip over him like a blanket, his last thought was ‘so this is what’s it’s like to finally fuckin’ die.’

‘I thought it would hurt more.’

“First stage of MAV has separated, second stage successfully ignited, and responsiveness is improving,” announced Sam as he studied his panels. Had he been awake to hear the words, Bucky would have felt the difference immediately, the sudden disorientating deceleration as, with a brilliant flash, the first stage exploded away from the MAV, leaving only the upper capsule and its precious cargo. The roar of the launch fell away, and the capsule no longer rocked and bucked and strained to tear itself apart. Instead, as though ashamed of its behaviour, it floated on in silence, still travelling at thousands of miles an hour, but now rolling and spinning as it made its way to orbit.

“Velocity on track, something must have been something causing drag,” Natasha reported.

“It’s like flying a fucking brick,” Sam grumbled as he focused on getting the MAV to them.

“Will he get up?” Steve asked, anxious.

“Oh, it’s on, Cap. I’m getting that fucker to orbit.”

It was a sign of Rogers’ fear that he didn’t chide Sam for his language, uncaring if the people back on Earth were offended.

“Intercept might get compromised,” warned Natasha.
“Get him up here first, then we’ll take on getting to him.”

“Copy that. Main engine cut-off in T minus fifteen seconds…mark.”

“He’s well below target altitude, it took too long for the MAV to stop fighting me.”

“How much is ‘well below’?” Rogers turned to Natasha.

“With the compromised control panel in the MAV I only have the accelerometer. I need radar pings to get his true final orbit. I need a moment.” Natasha’s hands flew over her control panel as she spoke.

“Back to automatic guidance,” said Wilson. “Prepare for second stage burnout and separation on my mark. 5…4…3…2…1…MARK. Engine shutdown.”

“Shutdown confirmed.”

“Buck?! Buck are you out there? Bucky do you read me?” Steve was desperate; Bucky's ascent had been far in excess of what any other human had endured.

At best he would be injured.

But he might not have survived at all.

"Bucky? Bucky, can you answer us?" Steve pleaded.

“He’s probably in la-la land, Cap,” Barton said from the airlock, calm and assured. “He was pulling more than 12g on that sucker. Don’t think he’s awake. Give him a minute.”

“Romanoff, Guidance,” Rogers’ voice was tight, restrained, “you got his orbit?”

“Links to DSN are active. Give me a second…receiving interval pings…working out intercept and velocity…”

Natasha’s hands flew over her keyboards, line after line after line of incomprehensible formula and text as she calculated where Bucky was in comparison to them, the soft chime of the radar the only sound on the bridge as Sam and Steve waited for her.

Not all that patiently.

“Can you confirm good trajectory for intercept?” Steve asked.

“Intercept velocity will be 11mps…There’s a problem.”

“I can do that,” Clint immediately came back. “That’s not a problem.”

“That’s not the issue,” Natasha said. “Because of the low thrust, he’s not where he should be.” Natasha’s shoulders fell as she stared at the screen, hands faltering over her keyboard as a warning alarm buzzed and her entire console lit up like a Christmas tree.

“Nat?” Sam asked.

“Give me a minute.”

“Nat…What does all that mean?”
“I want to double check.”

“Nat, just say it.”

Turning from her screen, Natasha looked straight at Steve.

“68 kilometres.”

“What?”

“We’re going to be 68km apart.”

“Fuck!” Sam slammed his hand onto the panel before him.

Steve clenched his jaw, hands gripping the back of Natasha’s chair.

“We’re not giving up,” Steve declared, gritting his teeth. “We didn’t get this fucking close to lose him now. We’ve travelled 140 million miles. We can go a few more. Sam, you got any more juice in the MAV?”

Sam shook his head. “OMS system was ditched for weight.”

“If he can’t come to us, then we go to him. We’ve got 40 minutes to move 68km.”

“39 minutes and 12 seconds,” Natasha corrected.

“Odinson,” said Rogers, “how far can we deflect the ship in 39 minutes?”

“5 kilometres, Commander. It is not enough.”

“Sam, what if we point our attitude thrusters all in the same direction?”

“How much fuel you wanna save for adjustments on the trip home?”

“How much are you going to need?”

“Me? Twenty percent.”

“If you used the remaining 80% for thrust?”

Sam ran the calculations, hunched over the console, calling over his shoulder to Romanoff with his results.

“It’d give us a Delta-v of 31mps.”

“Working it out, Commander,” Natasha said, typing quickly as she calculated the deflection they’d manage.

She turned in her seat.

“Assuming we use 75.5% of the remaining fuel, we would deflect our course 72km.”

“Do it.”

“Hold on.” Natasha held up a hand. “It raises a new problem.”

“Romanoff. That’s not what I want to hear right now.”
“It brings our intercept distance to zero but velocity from 11mps to 42.”

“I can try. Let me try,” Barton broke in from the airlock.

“Negative, Barton. It would take you from jumping on a moving train to trying to jump onto a bullet. It’s too great a risk. We’ve got 39 minutes to figure out how to slow down, let’s just get us to him.”

“Wilson, burn the jets.”

“Yes, sir.”

In the observation room in Houston Pepper turned, away from where Tony was close to ripping his hair out, pacing like a caged lion, to Fury, her brow furrowed.

“What was any of that? What happened?”

“Something went wrong with the launch; Barnes isn’t going to get to the intercept point with Valkyrie.”

“But they can move, right? That’s what they were discussing with the deflection?”

“Rogers plans to use the attitude thrusters to bring Valkyrie to the MAV.”

“And that will work?” Pepper’s voice was laced with desperation.

“Yes and no.”

“Explain the no portion of that. Please.” The words were clipped, the please tacked on after a hesitation, but it was no less an order for it. Pepper thrived on information, on plans, on the security of knowing everything she could about a situation in the hope of control.

“The deflection will close the gap between them and Barnes. But they’re going to be traveling at a speed 4 times what Barton can grab him at.”

“Shit.”

“Yeah.”

“Can they slow down? They have to slow down to enter Earth’s orbit.”

Fury shook his head, not looking away from the Control Room below.

“Not in time. It takes a month for them to slow down enough. It’s not like they’ve got brakes. Even if we were to find an answer to the problem,” he jerked his chin in the direction of a clump of off-duty engineers that had gathered around a desk, likely trying to find a solution, “by the time we had a solution, our message would likely not get to them in time for them to implement it.”

Pepper turned back to the glass and the room beyond.

“So they’re on their own.”
“Barnes,” Rogers tried again. “Bucky, do you read?”

Only silence greeted him.

“Buck?” Steve’s desperation bled from every word. “Buck, can you hear me? Can you respond?”

They’d come so far, so close, they couldn’t lose him now.

“Bucky?”

“Cap? He’s in an EVA suit, he should have a bio-monitor. It’ll be a weak signal but Nat might be able to pick it up.”

“Already on it,” Natasha declared when Steve turned to her, noting Steve’s pale face; the last time they’d tracked Bucky’s bio-monitor, it’d reported the worst.

Natasha couldn’t bear seeing those readings again.

“Sam, any idea on how to slow down?”


“Thor, can the ion drive-”

“I fear not, Commander. I had the same thought, but it is not enough.”

“There has to be something. We are not going home with him.”

“I have Bucky’s bio data,” Natasha announced. “He’s alive! He’s probably still unconscious, but he’s alive, Steve.”

“Thank God,” Sam breathed, glancing to his Commander, Steve’s eyes closed as he sighed in relief, shoulders sagging as he clenched his jaw against tears of relief.

“Thank fuck,” Sam echoed, shooting a relieved grin to Natasha.

“Nat, can you tell me his numbers, please?” Barton requested.

“Pulse 58, BP 98/61.”

“Okay, that’s lower than I’d ideally want, but given he’s been on Mars for 18 months, it’s not so bad,” said Clint.

“How long do we have until we intercept?”

“32 minutes, Rogers,” Romanoff replied.
“Barnes!”
Too loud.
Too urgent.

“James Buchanan Barnes!”
What the fuck did the person want? Why couldn’t I just stay in the dark, in the warm, in the pace without pain?

As though summoned, the pain slammed back into me, all at once. My whole body ached, my chest was on fire, a searing pain that speared beneath my sternum when I struggled to force a shallow breath.

I must have made some sort of sound, some grunt of pain that was taken as acknowledgement.

“He’s there, Cap. He’s coming around. He’s okay.”

I grunted again, not remotely convinced of that assessment, but incapable of either the breath or mental process to correct the annoying voice. I was a lot of things, but ‘okay’ was not one of them.

“Welcome back, bro.”

A third grunt.

I concentrated, trying to form words with lips and tongue that felt five times too large and numb as fuck.

“Fuuc’ me.”

“Don’t worry, Cap’s gonna try.”

“That how it is, Hawkeye?”

“Shut up and fly the damn MAV, Wilson, I’m talking to my patient here!”

Sweet, painless unconsciousness gave way to excruciating agony as Barnes came round, his chest a burning ball of sharp pain every time he tried to do something deeply outrageous, like breathe.

He began to wish he hadn’t left the vicodin on Mars.

Not that he’d be able to take it right now.

The canvas Barnes had been staring at as the MAV had been doing its best to turn his every bone to jelly, was almost completely destroyed. It had torn along the entire length in its best impression of the hole left after Airlock 2 had blown. Once it’d torn, it’d been blown inwards, effectively turning it into the window that had been removed along with Hull Panel 19.
It revealed a view of Mars far below the MAV.

It was beautiful.

Maybe because Barnes wasn’t on it anymore.

He wasn’t on Mars anymore.

“‘Ank God.”

Whatever happened next, he’d fucking escaped Mars.

“Fuck you, Mars.”

Bucky couldn't resist waving at the planet far beneath him, barely moving, just waggling his fingers, before giving into temptation and flipping it off.

With both hands.

It hurt, but it was totally worth it.

Trying to reach the radio controls on his suit felt as bad as when he’d come to on Mars after the antennae, but Bucky grit my teeth and got through it, activating the radio. It took a little while to convince his lips to form the shapes necessary for proper speech, but determination was key.

“Fuck, that really spangled my stars.”

“Bucky!”

“The one and only, Stevie.”

“You with us?”

“To the end of the line.”

“You okay?”

“Define okay.”

“You gonna live?” Barton’s voice crackled over the comms.

“Yeah, doc. I survived worse ‘an this shit.” He felt stronger with every word.

Clint barked a laugh. “You did worse than 12G?”

“Remember the Hydrazine. The airlock? The rover pile-up?”

“That’s worse than 12G?”

“Cumulatively, yes.”

“If you say so.”

“Hey, Sam?”

“Hey Bucky.”
“You coming for me?”

“Always.”

“Buck,” Steve came back, “there’s an issue with intercept. You’re not where we thought you’d be.”

“The canvas ripped,” Barnes replied, “it’s almost all gone. I feel like a sailor with a fucked sail. Guess I ain’t as good as I thought at this shit.”

“That’d explain a lot,” Sam muttered.

“How bad is it, Steve?”

“We’re working it out.”

“Steve…”

We’re correcting our location to come to you.”

“But…”

“Don’t worry about it-”

“Steven Rogers so help me God, I will sit here and sing every goddamn vulgar song I ever learned if you don’t-”

“We’re going to be at 42mps.”

“Well. Fuck.”

“He’s alive. That’s the main thing.”

“Thanks for that, Nat,” Steve grumbled dryly.

“Barton, with the MMU, if you went untethered, how fast could you-”

“Not fast enough, Cap,” Clint answered with regret. “At best I could manage 25mps. Even if I could get to 42, I’d still need another 42 to get back.”

“Oh, guys, not to interrupt, but I got an idea.”

“Let’s hear it, Barnes,” Natasha answered him.

“I could poke a hole in the end of one of my gloves, use the escaping air as a thruster, and I’d be able to direct myself around. I’m sure there’s something sharp in here.”

“Are you nuts?” Sam asked.

“Oh, probably?” Barnes admitted. “It’d explain a lot. I just thrust myself outta orbit in a convertible. On purpose. Sanity ain’t somethin’ I’ve had much of an acquaintance with lately.”
“Could you get 42mps?” Steve asked.

“No idea.” Bucky shrugged out of habit.

Which was a fucking stupid idea.

Fucking ow.

“Then no.”

“Come on!”

“No.” Steve’s tone was firm and Bucky recognised the tone; he wasn’t going to change Steve’s mind.

Damn it.

God-damn stubborn asshole.

“We’re not been reckless with this.”

“Coming from you?!”

“You’ve no idea how much control you’d have or even how fast it’d get you.”

“Okay, so it might kill me, sure-”

“The whole point of this is to not kill you!” Steve huffed. “Just…Just give us a minute to figure it out.”

“I’m just sayin’, I could rock the Iron Man thing. You’re Captain America, I could be Iron Man!”

“What do you think you’re gonna do, Buck? You’d be eyeballing the intercept and using a thrust vector you can’t control. You gonna stab a hole in your glove and magically fly, using something you can’t control or steer, towards Clint, only to miss him by inches but end up being saved by getting wrapped up in the tether so you can be joyously reunited? This isn’t one of Darcy’s Hallmark movies, shit doesn’t work that way.”

“Hey! It was a good idea. Besides, I thought we weren’t allowed to swear, ears of the world and all that.”

“Stupid ideas are exempt. So are Commanders.”

“Asshole.”

“You just keep sitting on yours until we work this out.”

It was worthless trying to change Steve’s mind but what else could Barnes do?

“I’m not sayin’ you’re wrong, but I don’t think you’ve considered everything.”

“Like what?”

“Like I’d get to fly around like Iron Man and you can’t put a price on that.”

“Should have left your ass on Mars…Just hang on.”
“To what?!”

Steve reached out and flicked the switch that killed the Comms from Valkyrie to Earth.

“You know, it actually might not be that bad an idea.”

“Are you nuts?” Sam turned to Steve, eyebrows raised. “It’s the worst idea I’ve ever heard, and I’m friends with you.”

“Not the glove shit,” Steve made an impatient waving motion with his hand as though to bat that idea away, “but the concept itself.”

“Using atmosphere as a thruster?” Natasha asked. “The atmosphere I am very much a fan of using to breathe.”

“Yeah. Wilson, get Thor’s station running.”

“What do you need?” Sam asked Steve as he slid out of his own seat and into Thor’s, firing up the screens, the pilot poised and ready for his Commander’s orders.

“Software for calculating course offsets because of a hull breach.”

“Seriously?” He asked, incredulous. “Didn’t you just say we weren’t going to reckless?”

“Just do it!” Steve ordered. “I wanna know what’d happen if we blew the VAL.”

Sam and Natasha stared at Steve, mouths slack, eyes wide.

“You really are fucking nuts!” Barton chimed in from the airlock.

“You wish to blow the Vehicular Airlock?” Thor asked. “Is that a wise course of action, Commander?”

“We’ve got enough air to repressurize the ship three times over in the case of emergency. It’d kick us right where we needed to be.”

“Or blow the nose off Valkyrie entirely,” Sam muttered as he typed the scenario into the software regardless. “Not to mention, it’s the same problem as Bucky’s Iron Man scenario – I can’t steer that shit.”

But he wasn’t saying no, Steve noted.

“Don’t need to steer – the VAL is in the nose, all we’d have to do is point the ship in the direct opposite direction to where we actually want to go before it blows and the thrust would push us around towards Bucky.”

“Don’t do anything stupid, Steve!” Barnes ordered.

“How can I? You took all the stupid with you!”
“You’re a little shit, ain’t ya?”

“Will not we be left with a similar situation to Barnes? We would not be capable of directing the thrust,” Thor asked, the voice of calm reason.

“A breach of the VAL, assuming we sealed the bridge and reactor room, would accelerate us 29 mps, leaving a relative of 13.”

“You hear that, Barton?”

“Yup.”

“Can you do it?”

“Gonna need 13 to match the MAV and another 13 to get back. Fucking better than 42 and I’m gonna try!”

“Can you remain tethered?”

“Yeah, yeah, I think so. But Cap, if I needed to go off teth-”

“That’s Plan Z. Thor, keep him tethered!”

“Understood.”

“If I have to, I’m going to,” Clint was obstinate.


“How long do we have to intercept?” Rogers asked.

“18 minutes,” Romanoff answered.

“What’ll the jolt feel like with that sort of breech?”

Sam shrugged. “Less than a G.”

“Bucky,” Steve said into his radio. “We’ve got a plan.”

“Fuck yeah!”

As the comms crackled, Tony whirled towards the screen, for what fucking good that’d do, given all it projected was numbers.

“Houston, this is Valkyrie Actual.” Rogers’ voice rang clear around the globe. “Be advised, we are undertaking deliberate hull breach of VAL.”

“What?” Tony bellowed, as the Mission Control erupted. “What the fuck is that fucker doing?! They’ve lost their minds!”

“What are they doing?” Pepper asked Fury. “Isn’t a breech something we normally avoid?”
“They’re going to try and thrust the ship towards Barnes’ location by a controlled breech in the hull. It’ll swing them around in his direction.”

“Can they survive that?”

Fury nodded. “Valkyrie is designed for accidental breeches to occur. The atmosphere will vent, but so long as the bridge and reactor room are sealed, the breech itself isn’t the problem. But they can’t be sure that anything that gets sucked out doesn’t damage the hull.”

“Are they nuts?”

“They’re about to blow a hole in their ship; you have to ask?”

Pepper slipped back into her stilettos and pulled her blazer back on.

“I better head to the press room, they’re going to be eating each other alive in there.”

When she got to the door, she turned back.

“Do you think it’ll work?”

“You asking for the press or yourself?”

“Me,” Pepper whispered.

“Miss Potts, I fucking hope it works. If anyone could do it, it’s them. My greater concern is what it’ll do to them if it fails.”

“We’ve got a problem, Cap.”

“Not what I wanna hear right now, Sam.”

“How are we going to open the airlock doors? We can’t open them remotely, they both can’t be open at the same time, and if someone is close by when it blows-”

“Already figured that out, Sam,” Steve interrupted.

“Of course you have.”

“Thor?” Steve radioed down to the airlock. “I need you to come back in and build a bomb.”

“What the fuck?!“ Sam cried, wrenching himself around in his seat. “Blowing the VAL is one thing, but a bomb? How’d you get from what I said to bomb in 0.1 seconds?!”

“Excuse me, Commander.” Thor interrupted. “Can you repeat?”

“A bomb. You’re a chemist, can you make a bomb?”

“Of course. We have the required elements.”
“Good. Get in here and make one.”

“Setting off an explosive within the confines of the-”

“It only needs to be small,” Steve stressed. “Just something that would be enough to make a hole in the inner airlock door. Or blow it off, it doesn’t matter. It just needs to leave the outer door intact. We need to maintain our aerobraking shape for return to Earth.”

“I am returning, Commander. Pressurizing Airlock 2.”

“Hang on, hang on,” interjected Sam. “Think about this, Thor! Think about it for a moment! He’s talking about you using a **bomb** on a spaceship. This could kill you.”

“Yes, but only if I die.”

On the bridge Sam blinked rapidly in confusion, one hand tentatively reaching up to tap at the speaker as though checking it was really working.

“Uh, well, yeah, that’d be my point!”

“I am coming in. I must go.”

Sam shook his head in disbelief, turning to Natasha only to find her attention held by Rogers.

“Romanoff.”

“Rogers?”

“It can’t be detonated by someone; that just leaves us in the same position as someone opening it. How can it be remotely activated?”

Natasha considered it, visibly dismissing several possibilities as she thought, before activating her comms.

“Thor, can you run wires into the container?”

“If needed.”

She turned back to Steve. “We could run wires from the bomb to the lighting panel that’s just outside the airlock and set it off remotely.”

“Do it.”

Natasha scrambled out of her seat, pulling herself along the hall as fast as she could.

“Wilson, I need you to seal off the reactor room.”

“On it.” Sam popped his harness and floated out of his seat, kicking off from the back of it to follow Natasha down the hall.

“Clint, I need you back in too, but stay in your suit.”

“You need me to lock the outer door of the VAL open, Steve?”

“Yeah.”

“So after I place the charge, how am I not gonna get suck- Oh.” Clint’s sigh crackled down the line.
“I see. You want me to clamber around on the outside of the ship don’t you? And back into Airlock 2?”

“There are latch points out there. You are the EVA specialist.”

“And a freakin’ acrobat. Yeah, okay, on my way.” He didn’t sound thrilled, and the crew knew why. It was hard work negotiating the outside of the hull, extraordinarily tiring to pull oneself along while being careful of the ship. There were a large number of devices and equipment that had to be avoided at all costs. During EVAs, Houston was constantly checking in with Clint about his distance from various arms and stations on Valkyrie, so easy was it to disrupt the workings of the ship, or even damage her. Making his way from one airlock to another, nearly a third the length of the ship and several delicate antennae away, was going to take extreme skill and effort.

It was also an indicator of Steve’s level of trust in Clint, and the doctor couldn’t help the swell of pride that welled in his chest at the thought.

“Thor in? He’s got a bomb to make. I’m coming down to replace him as your backup.”

“He’s removing his suit, Cap, but he’s in and heading to his lab as soon as he’s out.”

“Buck? How you doing?” Steve’s voice was breathy in Bucky’s ear.

Which he really enjoyed.

Inappropriate as that was in the circumstances.

Anything to distract himself from the fact he was way off course and his crew was going to be doing something phenomenally stupid in order to reach him.

“I’m fine.”

In reality he wanted to cry, and it had nothing to do with possibly missing Valkyrie. Bucky was pretty sure a couple of his ribs broke from the G-force and breathing, even shallowly, was an exercise in sharp, cutting agony.

“You mentioned a plan?”

“We’re gonna vent atmosphere for thrust.”

“Steve…”

“It’s gonna be fine.”

“Steve, how are you gonna vent the atmosphere?”

“Steve?”

“We’re gonna blow a hole in the VAL.”

“Are you fuckin’ nuts?” Shouting was not a good idea, pain lancing up Bucky’s side like a hot poker, leaving him gasping like a landed fish.
“Thor’s making a bomb to blow the inner door.”

“This ain’t the *Italian Job*, Stevie! Why can’t we use my Iron Man idea?”

“That’s too dangerous.”

“To me. Not to you guys. Look, I’ll tell ya – I’m a selfish fella and I kinda don’t wanna have to share my memorial plaque with you guys. I want a huge monolith in the lobby of the Houston offices with just my name on it. I can’t let you guys blow the fuckin’ VAL. So fuck that! You ain’t building a bomb without me and you ain’t setting one off in the ship I need to get home.”

“That we *all* need to get home,” Sam fired over his comms at Steve.

“I’m Iron Man-ing it.”

“Sit your ass in that seat,” Steve roared, and all movement on *Valkyrie* ceased for a heartbeat at the ferocity in the man’s voice.

“Steve, you can’t do this!”

“Oh,” Steve sounded genuinely saddened. “Well if you don’t…hang on…wait…oh would you look at that? It says ‘Commander’ right there on the patch on my chest. So, the hell I can’t blow the VAL. I’m the Commander. You’re gonna sit there and we’re gonna come get you.”

“Wise-ass.”

Thor reached his lab at the floating equivalent of a dead run, pushing himself along the corridors and through rooms by use of the numerous handles that were placed for that very purpose.

When he reached his workbench he encountered the same problem that had plagued Barnes several times.

Lack of flammables.

NASA had never considered the idea that those on board *Valkyrie* would want to deliberately make a bomb. They were all trained in the art of trying to avoid doing just that, especially Thor. Much of his professional life had been spent doing all he could to prevent such an event. Losing his eyebrows once had been bad enough, especially since Sif hadn’t let him forget it in the decade since.

He tore through the small space, upending countless tubs of heartrendingly expensive equipment, coming up empty time and time again. Right until he stopped by his desk, and the digital photo-frame took that opportunity to change images, projecting a photo of a smiling Thor and a scowling Loki.

A smile spread over the chemist’s face.

They might not have fire, but one thing they did have that would burn, was food, which by its very nature contained flammable hydrocarbons.

And there was one food that was practically dynamite, and Thor had his brother Loki to thank for teaching him the recipe for that particular bomb. Which, really, should have clued their parents in for the sort of trouble that Loki was going to be through his adolescence but in their grand tradition,
Odin and Frigga had somehow ignored or explained away Loki blowing up the groundskeeper’s ‘shed’ with only what he’d found in the kitchen.

Thor never thought he’d be so thankful for the lessons he’d learned that day, not least of which just how much or how little to use. Loki’s bomb had completely obliterated the two storey structure that had masqueraded as a shed, all four thousand feet of it, and all Thor wanted to do was blow a door off.

Now with a medium in mind, and ever aware of how little time he had, Thor scrambled through the mess he’d made of his room, the floating and spinning equipment swirling in the currents he was making as he pushed himself around, desperate to find the thickest, strongest storage container he had so as to maximise the concussive force; the stronger the container, the more the pressure would build up before exploding outwards.

It was time to make a crude, but hopefully effective, pipe bomb, and to do that, he had to get to the kitchen. Sugar held 4000 food-calories per kilo, amounting to 4184 jules per food-calorie. 16.7million Jules would be released by kilo of sugar, equal to roughly 8 sticks of dynamite.

Combustion in pure oxygen could really packed a punch.

It took him a minute to get to the kitchen and another minute back, clutching the package of sugar to his chest, weighing out exactly a kilo when he got back to his lab.

After siphoning the sugar into the selected beaker, Thor drilled a hole into the stopper through which he ran a length of stripped wire. He topped up the beaker with liquid O2 from the ship’s supply and a splash of ammonia and screwed on the modified stopper.

“I hope this works,” he mumbled to himself as he made his way towards the VAL.

Natasha was still removing the last screw before she could remove the facade free of the lighting panel she was modifying into being the bomb’s trigger as Barton made his way to the airlock.

Shifting the panel aside, Natasha downed her drill and grasped Clint by the forearm, jolting him to a stop. Before he could ask her what she wanted, she transferred her hold to his helmet, small hands grasping his faceplate.

“Be careful out there.”

“’Tasha, I got the latches all around the hull, I’ve done way stupider shit than-”

“Be. Careful. I don’t know what I’d do if you were compromised.”

He could read the truth of that writ large across her face in her too-wide eyes and pale skin.

It was the first time he’d ever seen her look scared. He never wanted to see it again.

It wasn’t him she was worrying about being compromised, not really. It was her admitting aloud, for the first time, how very compromised she was.

It was Natasha’s version of proclaiming her love.
Clint couldn’t help it, he melted just a little, hands coming up to cover hers on his faceplate, clumsy and oversized, but he gave her fingers as much of a reassuring squeeze as he could, all he could do while sealed in his helmet.


“Promises are for children and nursery rhymes.” She couldn’t front with him. It was what she had needed to hear, and Clint wanted to make sure she truly understood him.

“You always complain I’m nothing but a big kid. So I’m promising. I’m going to be fine. This is a walk in the park for me. Okay?”

She gazed at him, unblinking, as though memorizing his face before allowing him to leave. Her eyes flickered away from his for just a second and then returned and she pushed forward and pressed a kiss to his faceplate. The second she did she looked shocked with herself and mortified, pink flushing her pale cheeks.

“Don’t tell anyone I did that,” she ordered, scrubbing the sleeve of her suit across the smear her lips had left. “Forget I did that.”

Clint smiled, and brushed a gloved finger over her lips.

“I’m never gonna forget you did that.” He smiled softly at her. “And I’d so reciprocate, but I gotta go be heroic and shit now so-”

“Go.” She pushed him towards the door, turning away to pull herself back towards the panel, though she watched through the inner airlock as Clint depressurized, opening the outer door to lock it in place.

It was only as he disappeared from her view, starting his dangerous journey to Airlock 2 on the outside of the ship, that Natasha turned back to her work, stripping the ends of cables she pulled out and twisting some together, wrapping others in electrical tape.

“Romanoff, how’s it coming down there?” Rogers’ voice came over her comms.

“Let me put you on hold.”

“Really, Romanoff? Really?”

“Miss Natasha is busy, Commander, but I have arrived with the explosive,” Thor answered Rogers as he floated down the corridor towards his crew-mate, once more rigged up in his suit, helmet under one arm.

“I have placed only a single wire, Miss Natasha, so as not to risk a spark too soon.”

Thor handed her the free end of the wire, placing the explosive by the door.

“Nat, you done down there?”

“In a minute.”

“Don’t have one, I need you up in the bridge to monitor Clint’s progress along the outside of the hull. The sensors are for meteorite strikes but they should be sensitive enough to detect Clint.”

“Steve, I’m kind of busy.”
“Thor still with you?”
“Yeah.”
“Talk him through it.”
“Steve-”
“Thor, can you rig the bomb?”
“With Miss Natasha’s help.”
“Good. Get your ass to the bridge, Romanoff. In case of a problem, Thor is suited, you’re not.”
“Are you kidding?”
“Now, Romanoff.”

“I must return to Airlock 2, so as to allow Doctor Barton in,” Thor interrupted. “He will likely arrive before I complete the wiring.”

“Negative, Thor, I’ll be heading to Airlock 2, I need you to return to the bridge to help Sam.”

“You are certain, Commander?”

“You’re the astrophysicist, not me.”

“Understood.”

“Not understood!”

“I’m coming down there to let you in, Clint, and I’ll be the one going out.”

“No offence, Cap, but fuck that shit.” Clint’s voice was breathy from the effort of hauling himself around the hull.

“I’m your command-”

“You ain’t shit. We mutinied. I’m the one trained for this. I’m the fucking acrobat. I got this. You go out, and chances are we lose you both.”

“Doctor Barton-”

“You wanna pull rank, Commander, then you might wanna remember that I’m the only person aboard with the capacity to relieve you of duty. I don’t wanna do that, but I will if you try and stop me doing this. Sam, you know what to do if he tries to leave the bridge.”

Up on the bridge, the pilot reached under the instrument panel before him and brandished a roll of duct tape.

“Let me do my job, Steve. Just let me do my job.”

“You can’t train for this!”

“I can and I have. I’ve got this, Cap. I had a momma, I don’t need another one.”

“Then let me be your back up.”
A crackle of static came down the comms as Clint sighed. Hard.

“Fine. But you make one move for the MMU or out that door and I will duct tape your ass to the wall. You got that?”

“Understood.”

“You sure on that?”

“Yes.”

“Where you goin’ Cap?” Sam asked as the Commander pushed his way to the bridge door and turned right instead of left towards the VAL.

“If you’re going into space, you need to wear a uniform! Prep the attitude correction, Thor is coming to assist when he’s done.”

“Roger, Commander.” Sam strapped himself back into his station and began the calculations. “It’s gonna take me a minute, Cap.”

“Take your time and get it right. We’re not executing until Barton’s back inside.”

“Don’t want to bucking bronco him off the ship, huh?”

“Something like that.”

Following Natasha’s instructions, Thor identified the correct hatchway, the thin seam around it illuminated, as though he was being led straight to it. Pressing on the centre of the panel, Thor waited for it to pop forward out of place and then slid it aside.

The wall behind held a mess of everything one would expect to find within a spaceship – endless ropes of wires, power conduits, life support and waste tubes – the majority of which the chemist didn’t recognise and didn’t want to tamper with in case they were important.

“Miss Romanoff, I have accessed the panel.”

“Follow the yellow conduit on the right-hand side.” Natasha was slightly out of breathe, pushing herself along the long corridors and ladders separating her from the bridge. “It’s a third of the way up from the floor. Follow that back to the junction box.”

Lowering himself onto his stomach, Thor shone his torch into the compartment, a flash of yellow catching his eye. Wiggling onto his side and forcing as much of his upper body into the space as possible, Thor followed the conduit back, and just when he was afraid he wasn’t going to fit far enough into the space, his broad shoulders – a problem only acerbated by his suit - hindering his access, the pipe veered upwards sharply.

“I have it.”

Slowly, and with great care, Natasha talked him through the placement of the wires. It wasn’t pretty, hacking into hundreds of thousands of dollars of tech never was, but then it didn’t need to be.

It only needed to work.
Placing the wire strippers between his teeth, Thor took clippers from his belt and, under instruction, clipped wire after wire, twisting some together and wrapping electrical tape around others, radioing his task’s completion to the bridge.

“We’re going to run a test before you wire up the bomb.”

“That safe?” Thor asked.

“The bomb in there with you?”

Thor wriggled himself free and shot a glance over at the airlock door, a corner of the pipe bomb peeking innocently up above the sill of the little window on the other side of the door.

“No.”

“Then we’re as good as we can be.”

“That is not the same as ‘good’.”

“Odinson, just run the damn test. I’ve sent the sequence to your tablet.”

“What am I looking for?” Thor asked mulishly as he retrieved his tablet from the other side of the hallway, waking the screen with the swipe of a thumb.

“A spark.”

Opening the correct application, Thor almost took several steps back before remembering that 5 steps or 500, if he wasn’t tethered and didn’t have his helmet on, it wouldn’t matter. He might as well stay and observe the panel.

To that end, he hunkered back down in front of the exposed compartment, took a deep breath and entered the required testing sequence.

Nothing.

He jabbed the button again.

“Thor? Nothing is happening on my end.”

“I am aware!” Thor jabbed his large finger down on the tablet again and again, but still no sparks emanated from the wires.

“Stop smacking it,” Natasha chided, demonstrating her occasionally creepy level of insight to her crewmembers approaches to adversity. “Try pressing it gently.”

“I am pressing it gently,” Thor replied through gritted teeth, jabbing violently at every button on the tablet.

“Why can’t anything ever work?!” Thor slammed his whole hand down on the tablet, and then banged his head as he jerked back as a shower of sparks rained down around him.

“Yes!”
“Hey, Clint?” Natasha asked as she reached the bridge, strapping herself in and bringing up the external net of sensors, a white flashing light indicating that Clint was about halfway through his journey via hull.

“Yes?” Came the reply, Clint’s breathing laboured as he made his way around the outer hull.

“This is like Budapest all over again.”

Barton’s breathy laughter came down the comm.

“Tasha, you and I remember Budapest very differently.”

“That’s it. I’ve sat on this for over a year – what the fuck happened in Budapest? It was a fucking conference, for God’s sake. It’s supposed to be four days trapped in hell, with boring lectures, panels nobody wants to attend and more drinking than a frat house. What the hell did you two get up to?” Sam asked as he keyed in the adjustments to the ship’s course with Thor’s help, just waiting for Rogers’ go ahead.

“I’ll tell you when you’re older, Falcon. You’re too young to know. Cap, you’ll always be too young to hear that story.”

“Funny, Barton. Just get your ass back in the ship.”

“On my way.”

“I’ll be in the airlock.”

“Cap, if you were in the airlock, you’d hear me banging on the door.”

Pulling on his helmet, Steve depressurised Airlock 2 and opened the outer door.

“‘Bout damn time!”

Steve pulled Clint in.

“Tether to the wall.”

“Thor, as soon as you’re done, return to the bridge.”

“He’s already on the way, Commander,” Natasha confirmed. “Bomb is in place and the breaker’s jammed. I can set it off from my station.”

“Get in and seal the bridge.”

Unbuckling herself, Natasha reached out of the bridge airlock to pull the chemist in, Thor breaking out the emergency seal, plugging the bridge and turning the crank hard to ensure it was done and testing the seal.

“Bridge is sealed.”

“Time to intercept?” Steve asked.

“Twenty eight seconds, Commander,” Thor answered as Natasha settled herself into her station.
“We ready, Sam?”

“Angle is on, Cap.”

“Nat?”

“All I have to do is hit a button.”

“Strap in. It’s time to try this really fucking stupid idea.”

“My friends, have you forgotten what we have done together, what we have achieved? I have no plans to die today,” intoned Thor.

“You just had to mention death, didn’t you Thor?” Sam complained.

Chapter End Notes

Good-luck peanuts like Bruce insisted be in the FCR made their first appearance at the Jet Propulsion Laboratory’s Space Flight Operations Facility in 1964 during the Ranger 7 mission. JPL had six failures prior to this effort, so the pressure was on to succeed. The Ranger 7 launch day arrived and with it came the peanuts. Dick Wilson, mission trajectory engineer on the Ranger team brought them in as a snack to help with anxiety levels. The peanuts have showed up on informal countdown checklists for most every launch since then.

On a few occasions, the peanuts didn't make it for launch day. In once case, the spacecraft was lost soon after launch. In another, the launch was delayed for 40 days, and only took place after the lucky peanuts were delivered to the mission team. Someone forgot lucky peanuts for the first Cassini launch opportunity. Peanuts were on hand for the successful October 15, 1997 liftoff.

Until Voyager, the peanuts were only on unofficial launch checklists, but in recent years, any sort of high anxiety or high risk mission stage has peanuts so they were definitely going to have to be in the room for this!

Also, am I throwing a little shade at how the rescue was done in the movie? yes, yes I am. that was shit and I hated it oh so much. It robbed Beck of his moment (in the novel all the crew get to use their specialty, their expertise to help save Watney and in the movie Beck is robbed of his and I LOATHED IT) and so yes, maybe I was getting a little of my bitterness out...sorrynotsorry
Chapter Summary

The Valkyrie crew are undertaking their own stupidly dangerous plan. 
Never has more been on the line. 
Can they bring Bucky home?

Chapter Notes

Bucky has a low symptom anxiety attack (essentially a mild panic attack that's relatively short) in this chapter. Its a very bare bones description as he doesn't really remember it well and doesn't know what's happening at the time.

See the end of the chapter for more notes

“Steven Grant Rogers, you are making a mistake-”

“No, Buck, I'm rectifying the biggest one I ever made.”

As the crew’s voices rang out, the FCR, and Stark, were suspiciously quiet as Fury looked down on them all from his vantage point, now all alone in the observation room. He ignored the ringing phone that sat in the middle of the conference table. It’d been ringing for the last few minutes, the sound ceasing for only a few seconds before starting up again

He neither knew nor cared who the caller was. He had far more important concerns.

As he watched Doctor Cho slipped into the Control Room, quickly pushing her way over to a the knot of other AsCans, her arms full of Barnes’ medical notes, the good doctor optimistic that very shortly she’d be needed to liaise with Barton to treat the patient. She glanced up to where Fury stood and he nodded to her before he turned back to the numbers that counted down on the massive screen at the front of the room, the seconds ticking away as Tony paced, barking pointless questions at the engineers around him.

He knew how the man felt.

Fury wondered if this was how other people felt all the time; unsettled and unsure.

He fucking hated it.

Knowing that 140 million miles away it was all over by now, that Barnes had been saved or not, that the Valkyrie had been lost or not wasn’t helping.

Fucking transmission delay.
“5…4…3…” Natasha counted down.

“Brace for acceleration,” Sam ordered.

“2…1…Activating Panel 41.”

Inside the container-bomb, the full current of Valkyrie’s internal lighting system flowed through a thin, exposed wire. It quickly reached the ignition temperature of the sugar. In the pure O2 atmosphere within the container it took less than 100 milliseconds for the combustion pressure to burst the container.

The explosion ripped apart the inner door of the VAL and ripped it out into space.

The atmosphere within Valkyrie rushed through the open airlock and forced Valkyrie’s nose around in the opposite direction.

“You...were only...supposed...to blow the...bloody doors off,” Clint mumbled as he was pressed against the wall of Airlock 2.

It was all over in 4 seconds, the jerky shaking ceasing as the ship returned to weightlessness.

“Report?”

“Bridge and reactor room remain sealed, Commander, and we’re all good up here,” Sam answered.

“Damage?”

“Unknown, Rogers,” Natasha reported. “I have an external camera pointed along the nose and cannot see any problems with the hull surrounding the VAL.”

“Once we got Barnes I can go back out,” Clint offered.

“Worry about it later,” Rogers ordered. “Relative velocity and distance to MAV?”

“We’ll be within 22 metres and at 12 metres a second. We got better thrust that we thought.”

“Hey, I did the math beautifully,” Sam defended.

Clint loosened his tether and floated up to the outer door of the airlock, pressing both hands up to the window and looked out, eyes straining to catch sight of the MAV capsule and its precious cargo.

“This would be a lot easier if I had my grappling arrow.”

“Are you really...are you talking about your fucking bow and arrow right now? Can you go a minute without thinking about notching an arrow?” Sam’s tone turned sultry. “Is it a weird sex thing?”

“Nock.”

“What?”

“You nock an arrow, you don’t notch it.” Clint’s disgust at Sam’s ignorance was clear.

“That’s the part of that you have a problem with? I ask if you’re all hot and heavy with your bow and it’s ‘notch’ that you have an issue with?”
"I have an issue with all of it, keep it down," Steve interrupted, all too aware of a listening world. He was not going to be alone in hearing the riot act from Miss Potts. If he had to endure it, so too would the rest of the crew.

He turned to where Clint bobbed by the door.

"You ready for this?"

"I can do this!"

"You sure?" Natasha and Sam answered in tandem.

"Hey! What's wrong with you people, that's not friendly!"

"You remain sure that you are capable of such a feat, my friend?"

"The more we talk about it, the less sure I get, so let's talk about something else."

"I wanted to be a Valkyrie when I was a child."

"Huh?" Asked Clint absently, paying more attention to reeling out the tether for complete free movement, running his fingers along the rope to ensure there were no kinks or cuts.

"I wanted to grow up to be a Valkyrie," Thor repeated.

"Now you're riding on one." Clint frowned. "That came out dirtier than I meant."

"What did you dream of being?" Thor asked.

"Didn't."

"Sorry?"

"Dreams were things other people had." Along with reliable electricity, food for groceries and parents. "Couldn't afford 'em."

"A dream costs nothing."

Clint glanced at the inner airlock door, as though looking towards the bridge where his friend was holed up, expression clearly that of a man thinking Thor was an alien. "Perhaps where you're from, buddy."

They lapsed back into silence for a moment before Clint's hands stilled in their task. He turned to Steve.

"Don't Valkyries collect the dead?"

"Maybe we should talk about the weather," Steve suggested.

Thor craned his body to the side and peered out the immense window before Sam.

"It would seem that Mars is enjoying good weather this day."

Barton burst out laughing, nerves abating once more.

"Well, we're gonna bring the thunder."
“Bucky,” Steve said, cutting off his crew’s ridiculousness, “it worked, we’re coming.”
“I’ll roll out the red carpet, Cap!”

Pepper slipped back into the VIP observation room, striding with purpose up the glass to stand beside Fury

“Not staying with the press?”

“I want to be here. In case…” She trailed off, nodding towards where Tony was flitting from station to station, nudging techs away from their screens to run pointless diagnostics and yelling questions, the answers to which he was no more satisfied with than the last time it’d been provided for him, in most cases only a minute previous.

“He’s at full tilt diva,” noted Fury. “There a setting that comes after that?”

“Not one I want to see,” Pepper answered grimly.

“I’m going to jump out,” Barton told Rogers as the Commander took hold of the tether that was attached to the doctor’s suit. “That’s going to get me another 2 or 3 metres a second, okay?”

Rogers just nodded.

“I’m gonna get him, Cap. I promise.”

“Don’t promise what you don’t—”

“I do know,” Clint said with conviction. “I’m not coming back here without him, and I’m fucking coming back.” He winked and smiled broadly.

"Operation Get Bucky's Ass-"

"Fine Ass," Bucky corrected.

"...Off Mars is good.  Operation Get Bucky's Bony Ass On To Valkyrie is a go!"

Placing his feet up on the back wall, Clint bent his legs as much as he could in the bulky EVA suit, the MMU limiting his normal agility, and pushed himself out of the airlock. He’d swear on a lifetime of pizza, that he felt, Steve’s hands press against the soless of his boots, lending his own strength to Clint’s momentum.

“I’ve got visual on the MAV!” He reported immediately after his exit, Steve having to resist every instinct to rush to the door and peer out, needing to stay rooted to where the tether was spooling out.

“Fuck, Barnes, that looks bad!  “What the fuck did you do to the damn thing? You’re gonna make Wilson cry!  That thing is part screwed, part buggered, and all fucked.”
“Man, you think this is good, you shoulda seen what I did to the rovers.”

Barton thrust on an intercept course, one he hoped would be more successful than their earlier attempts. He’d practiced this for hours back on Earth. Hundreds and hundreds of hours spent in the NBL back in Houston, training and training until each reaction was reflex, a perfectly honed choreography.

He was damn good, and he knew it.

Having a childhood in acrobatics really paid off. Natasha, with her background in dance had taken to using the MMU equally well. The others…they got there. In the end.

But none of them could hold a candle to how good Clint was.

He had this in the fucking bag.

“Space Pirate Bucky Barnes, on behalf of Commander Rogers and the crew, I’d like to welcome you to Flight Fly-By-Night. Conditions are as good as they’re gonna get, I’m the best in the biz, and am coming at you like white on rice. The temperature outside is a shrinkage inducing ‘fucking cold’ so please remain in your seat with your seat belt securely fastened until I come rescue your ass.”

“Shut up and get on with it,” Steve interrupted.

“But what if it’s some disgusting alien in there? I’ve seen ‘Invasion of the Body Snatchers’.”

“Well then, you’ll have a date for this weekend.”

“I die and Cap develops a sense of humour? How does that work?”

“We sure we gotta haul his ass home, Cap?” Wilson asked.

“Yes, you do!” Bucky opined at the same time as Steve.

“I was talking about Clint.”

“Oh, then nah. Once he gets me on board, feel free to warp 9 right outta here and leave his reality show watching ass behind.”

“You have been watching all my shows!” Clint fired the right-hand thruster for a second, adjusting his trajectory.

“You got me on radar, ‘Tasha?”

“Affirmative.”

“Can you gimme my relative velocity to the rent-a-wreck every few seconds?”

“Currently at 5.2mps.”

“Hey, Idiot, the front door’s wide open. I can get up there and be ready to grab onto your sorry flat ass.”

“No, Bucky!” Steve barked into his radio. “No untethered movement, I’m not kidding! I am not losing you when we’re so close,” Steve commanded. “You wait until Barton gets to you and tethers you to his suit.”
“Looks like we’ve gotta tie the knot, pal.”

“Nah. I got ‘Tasha and Steve would kill me if I made my move now.’”

“Better not tell him about that threesome invite then.”

“3.1 mps,” Romanoff cut through their banter.

“Can you take this seriously, Barton?”

“Rogers, I’m hurt. You should know I can take a mission very un-seriously and still ace it.”

So saying, Clint eyed up his approach to the MAV, letting himself coast as he caught up to it, deciding where the best possible point to grab a solid hold was.

“11 metres to target.”

“Got it.” Clint rotated a little, realigning himself in preparation for the next thrust.

“6 metres.”

The tattered canvas seemed his best bet, the cloth flexible and so easily folded into his fist, giving him something to grab, unlike trying to get a hold of the smooth hull. Or rather, what was left of it after Barnes had turned it into more modern art sculpture than ascent vehicle.

“Velocity?”

“1.1 metres per second.

“Close enough for me!” Clint strained forward, extending as far as the suit and MMU allowed, first only brushing the canvas with the ends of his gloved fingers, so tantalisingly close, seconds later able to grab it, pulling his body closer and immediately getting a firmer hold.

“Fuck, ow. I knew I should have stretched first!”

“What?”

“Oh, uh, contact. Contact that about dislocated my shoulder, but it’s cool. I’m a doctor.”

Sure of his initial hold, he pulled himself even closer and got a second handful of canvas.

“I’ve got firm contact. I’d like to thank the academy, the-”

“Barton!”

“Sorry, Cap.”

“You’ve only got 169 metres of tether left and you’re now getting further away. You’ve got 14 seconds. Get Barnes and get out. You can do all the vamping you want in the airlock.”

“Promise?” Clint pulled his way up to the opening and peered down at Barnes strapped into his acceleration couch.

“Visual on the Martian!”

“Visual on the Idiot!” Bucky reported.
“How you doin’?” Clint pulled himself up and into the ship.

“Been better. Bit, uh, fucking hell…you’re the first person I’ve seen in eighteen months and it’s your ugly mug. It’s a bit…fuck it’s overwhelming. You guys are really here.” Bucky suppressed a sob, the pain lancing though his side, bringing tears to his eyes.

“You’re really here.”

“You’d kiss me if you could, and you know it. Gonna have to get over my gorgeous self on the way back to the ship because we’ve gotta go.”

“I still hate this plan, by the way.”

“Don’t worry, I got you. You’re a skinny enough dude without all that extra fat you were carrying around. There’s enough tether to go around you.”

“Fat?! You’re calling me fat?”

Clint kicked off the wall of the MAV and down towards where Bucky lay, colliding awkwardly with the couch and almost bouncing away until Bucky got an arm around him, grunting in pain from the impact and Bucky muted his microphone so he could scream as loud as he wanted as his battered body took even more punishment.

“Ooof!”

“Uuhhff!”

“Well, that sucked.” Clint pushed himself up and off Bucky who raised a weak hand to clutch at his ribs. “You okay there, Buck?”

When he could breathe again without feeling like he was going to vomit, Bucky turned his mic back on.

“I hate you, Clint.”

“Seriously, Bucky, you okay?”

“Not even close, but thanks for asking.”

“Oh, good. You’re not dead yet. Steve woulda killed me.”

“What the fuck, man?”

“Hey, I’m just doing what my Commander ordered me to – keeping contact with you!”

As Barton fumbled to latch the front of his suit to Bucky’s, Bucky made short work of his restraints, only fully releasing the clip when Barton barked into his radio that they were connected.

“Look at it in here.” Tied together as they were, it was hard for Clint to manoeuvre enough to really get a good look at his surroundings, but it was hard to miss the floating screws and washers, the empty spaces where the rest of the couches should be, the gaping holes were consoles had been ripped out. “Shit man, you went full destructo-child.”

“What can I say, renovation is my true passion.”

“Buckled in?” Clint confirmed one more time, yanking on the tether between them.
“Let me show you the world,” Clint crooned as he kicked off the chair and pushed them both up through the tear in the canvas and kicked free of the trailing canvas to rest on the edge of the capsule, Clint preparing to push them off back towards the ship.

“Shining, shimmering, splendid…”

“You’re insane, you know that right?” Sam commented.

“Awesome. I think the word you’re after is awesome,” Clint corrected.

Adjusting his hold on Bucky, Clint looked out and down at the planet. He whistled.

“Wow, if you ignore the spinning and the imminent death, its one hell of a nice view. You gonna bring all your dates out here?”

“We really need to get back to Valkyrie.”

“I bet you say that to all the boys.”

“Stop.”

“Don’t wanna make the Commander jealous.”

“Please stop.”

“I’m just sayin’ -”

“I will pay you ten thousand dollars to stop.”

“…”

“I’m just sayin’, let’s get you back to your boy.”

“We’re out,” Bucky radioed, since apparently Barton wasn’t going to keep the crew updated. “We’re coming back.”

Angling back towards the airlock, Clint couldn’t help but admire the ship. He’d been on the outside numerous times, he was the EVA specialist after all, but even he’d never been so far out before. She looked both intimidating and fragile, so immense and yet so tiny in the grand scheme of things. He could see the wheel responsible for gravity, no longer turning, the familiar enormous windows of the Rec Room, the gaping maw of the blown VAL, all the lights around it blown.

She was beautiful beyond belief.

“Let’s get you home, Bucky.” If the man essentially perched on his lap heard the hitch in his breath, he was at least good enough not to mention it.

“5 seconds of tether,” Rogers radioed back, voice strained.

“Relative velocity to Valkyrie is 12mps,” Natasha reported.

“Thrusting,” Barton activated the MMU, accelerating them towards Valkyrie for several seconds, before the panel on Clint’s arm turned red.

“We’re outta fuel. Velocity?”
“5mps.”

“Standby,” said Rogers. From the moment Clint had pushed his way from the airlock, Steve had been slowly feeding out the length of cable, not holding onto the cable for fear of getting pulled from the airlock, but loosely forming his fist around it, giving enough friction to keep it feeding out slowly and evenly.

He was pretty certain Bucky would make a joke about that.

*Valkyrie* was pulling Barton and Barnes along with the slow feed of the tether acting as a shock absorber. If Steve let it out too slowly, the speed of the ship would rip the tether from Barton’s suit, too fast and the tether would run out before the ship and the astronauts were at the same speed.

Once they were traveling at the same velocity, Rogers could start to reel them in.

But they were running out of tether.

They were running out of time.

“Velocity zero. Repeat, velocity zero,” Natasha called out, just as Rogers was feeding out the last few metres of cable, and he let out a whoosh of breath in relief.

“Bringing them in,” Rogers said.

It was slow. Slower than he wanted, but Steve forced himself to not just yank on the tether as hard as he could, instead taking his time, hand over hand bringing the cable in until he could see them just outside the airlock, his breath hitching unexpectedly when he caught sight of Bucky’s suit.

“Get in, loser.” Clint propelled Bucky towards the gaping airlock door. “We’re going home.”

The pair floated into the airlock and Steve’s grasp, the Commander pushing them around him and towards the handles in the walls, moving forward to close the outer airlock door while Clint wrestled with releasing the tether that kept him connected to Bucky, Bucky once again muting his mic so he could holler in pain from Clint having to manhandle his friend as the other man kept trying to turn to watch Steve.

“Barnes is in the house!” Clint hollered into his radio.

“Airlock 2 outer door is closed,” Rogers reported, unable to rip his eyes away from where Barnes was floating just feet away.

He could reach out and touch him.

Bucky felt the tears well in his eyes, but due to the lack of gravity, they couldn’t fall, and rather than trickle down his cheeks and into his beard, the tears balled in his eyes, blurring his already fuzzy vision until he shook his head enough to dislodge them a little, neither graceful nor attractive and more than a little painful but he couldn’t give a shit as he gazed at Steve, at the beloved face he’d missed so much.

“Welcome home, Martian.” Clint patted the bulkhead. “Isn’t she beautiful?”

“Most gorgeous thing I’ve ever seen,” Bucky murmured, staring unblinkingly at Steve.

And he was.
Bucky hadn’t been wrong about the softcore lumberjack; the bright lights of Steve’s helmet were unforgiving, washing out the Commander’s pale skin, his cheekbones were too stark, and the circles under his eyes nearly black but he was still the most beautiful thing Bucky had ever clapped eyes on.

“Gorgeous,” he whispered again.

Bucky unmuted his mic, and yelled as loud as his chest would let him,

“Let’s hear it for Captain America!” The fucker smirked at Steve, ignoring the pain that moving invoked to reach out, hand twitching as though grabbing for him, Steve more than happy to push forward to take Bucky’s gloved hand awkwardly in his, mouthing his hello and grinning like a moron.

“There goes the neighbourhood,” Sam radioed back, the bastard’s idea of a greeting to his long-lost crew mate.

“Hey! What am I, chopped liver?” Clint bitched. “I did the death-defying.”

“Natasha can stroke your ego later, Bar- OW!”

“Natasha, don’t concuss the pilot,” Steve reprimanded, staring unashamedly at Bucky, hating the bulky suits that kept them apart, Clint rolling his eyes.

“Didn’t do a thing. Hey Bucky, welcome home.

“My friend! I’ve never been so happy to hear your voice,” Thor added

“You know what, Romanoff? I’m gonn-

“Get the ship prepped for repressurizing, Natasha. Sam, argue on your own time and get gravity back.”

Rogers’ voice echoed across the world.

“Houston, this is Valkyrie actual. We have six crew members safely on board. Confirm, Barnes is on board, and airlocks are tight. Valkyrie is coming home with her full crew.”

The control room exploded, arms punched into the air, laughter ringing out as every tech and specialist and Director grabbed the closest person and cheered together, many breaking down into tears.

In the cafeteria tears flowed, and a knot of young friends threw themselves into each other’s arms and fell to the floor, a laughing and weeping pile of exhaustion and elation.

Across the globe strangers hugged and laughed and cried together. Around the world in offices and pubs and homes and classrooms, the world celebrated.

In an apartment in Brooklyn a mother and daughter held each other as they wept, Marissa barely holding it together as she cheered with baby Michael, Peggy kneeling on the floor, one arm around her new friend as they laughed together, Peggy wiping away the occasional tear that fell.
Rhodey breathed for what felt like the first time in months, even as Barney tackled him and Natasha’s father clapped him on the back with a broad smile.

“You cockroach Barnes. You motherfucking impossible bastard.”

Tony ripped off his headset and threw it into the air as though his graduation cap, spinning around to the observation window

“Oh yeah!” He yelled, arms thrust above his head. “That’s how we do it in NASA!”
He bowed, ridiculously ostentatiously, to the window, before spinning around to grasp Coulson by the shoulders.

“They did it, Agent. They actually fucking did it!” He immediately fell on Phil’s tie, tugging the knot loose and deftly popping the first two buttons of Coulson’s shirt before Phil could stop him.

“Time to kick back and relax, my man! They did it!”

“Of course they did,” Phil said with a grin. “A team of people who share a conviction can change the world.” Phil tried to grab for his tie.

“That’s all you’ve got?! They just pulled off the move of the century and your response is that? Are you fucking Yoda?”
Phil rolled his eyes.

“Go harass someone else, Stark.”

“Nooooo. I’m gonna teach you the meaning of the word fun.”

“Anything that you find fun is likely to reduce my life expectancy by at least a decade.”
“But what a way to go, though!”

Up in the observation room, Pepper had both hands pressed to the glass as she watched the room below, uncaring, for the first time in her professional life, what was scrolling across the news feeds behind her.

“Thank God,” she breathed past the lump in her throat, tears rolling down her face as she smiled at Tony and Phil’s antics, Fury resting a hand on her shoulder.

“They did it, they actually did it.”

“They did.”

“You got your blue folder?” she asked thickly, watching as Fury drew it out from somewhere within
the folds of his leather coat.

“Didn’t even make a red one. Got no time for that Nixon defeatist crap.”

“You were that sure?”

Fury merely raised an eyebrow and smiled. He jerked his head in the direction of Tony.

“Get down there, he’s about ten seconds away from grabbing the next person that goes by and kissing the shit out of them and I could do without the sexual harassment suit. Or Coulson punching him in the face.”

“But the-”

“I’m a big boy, Miss Potts, I can handle a room of reporters.” As Fury walked out, he added.

“Tell them all to go home. They need sleep.”

“I suspect ‘sleep’ will come in several tumblers.”

“They’ve deserved it. Have your boyfriend open a tab, it’s the least he can do.”

**Log Entry: Mission Day 687**

Mission date 687.

How fucked up is that?

We left Earth 687 days ago. Sure, it’s Sol 549 down on Mars but on *Valkyrie* we count the days.

And guess what?

I don’t give a fucking *shit* what sol it is on Mars because I’m not there anymore.

I’m not dead.

And I’m not on Mars.

I’m back with my crew.

I’m so very familiar with the layout of *Valkyrie*, but my first glimpse of the interior in eighteen months was a surreal and dizzying experience.

And overwhelming.

Oh, so very fucking overwhelming.

I’ve not been surrounded by people in eighteen months.

I’ve forgotten the sounds of *Valkyrie*.

I’ve forgotten how to interact with others.
It’s like my life has been in limbo while I was on Mars, able only to fight to survive.

Now it’s restarted again.

I don’t know how to deal with that.

I guess if this were some Hollywood blockbuster, the whole crew would have been crowded around the inner door of the airlock just waiting to greet me, with hugs and high-fives and sentimental musical-montage-friendly shit like that.

That ain’t how shit went down.

I kinda wish it was.

For a start, Natasha, Thor and Sam are sealed into the bridge and Steve had to go and close the VAL outer door, though he hung out in the hall just staring at me before Commander Rogers had to take into account the best interests of the crew and not the wants of Steve, forcing himself to turn around and pull his way along to the VAL.

Besides, Barton wanted his pound of flesh.

My vision is blurry from acceleration sickness and everything hurts. My body aches like fuck. It hurt the whole time but when Steve started pulling us in by the tether I ain’t ashamed to admit I was glad I had muted my mic so I could scream in agony without upsetting anyone. Pretty sure I broke ribs during my rollercoaster hell ride. At least two. You ever break a rib? My chest feels like a horse kicked it, and it’s only been getting worse since I got back. Since Steve left my sight.

But I didn’t give a shit. I wanted to be with Steve.

Wanted to go with Steve.

I tried to swim-push my way towards Steve, ready to follow him, heart hammering, breath coming in short huffs. Being with Steve would make it real.

I couldn’t handle this being a dream.

Not again.

I needed to talk to him. I needed to see him.

I needed him.

Barton, however, had other ideas, stopping my bid to follow Steve by grabbing the back of my pack and tugging me down the corridor towards the medical bay.

“Don’t worry, lover boy. He’s coming.”

“That’ll make two of us.” I could barely quip past panting breaths to cover my mounting panic as Steve disappeared from view and I could no longer see another person what with Barton at my back.

I was alone again.

I needed Steve. Needed to see him. Needed this to be real.

 Couldn’t see for shit.
Fucking EVA suit

I musta really started to really panic or something ‘cos next thing I knew, Barton was all up in my faceplate.

“Bucky, listen to me. C’mon, look at my handsome mug. Drink in my perfection.”

Clint was using some soothing tone I’d never heard from him before, and I didn’t wanna hear it now. I just needed…

I don’t know what I thought I needed.

I vaguely remember shaking my head or maybe I was just shaking all over, I don’t know. I remember it was too hot inside my suit, the trembling enough to shake loose the balls of sweat clinging to my skin, stinging in my already watering eyes, and I wanted it off, wanted the helmet off, needed it off so I could fucking breathe struggling against Barton’s hold on my hands.

My chest hurt and I couldn’t remember why, but maybe it had something to do with how my heart was pounding in my chest.

Was I having a heart attack? Was that Mars last cruel little joke? ‘Sure, Bucky. You can leave, but you’ll never get back to Earth, mwahahaha.’ Was I still not gonna get to talk to Steve?

Was I gonna die never having gotten to kiss him?

Why wouldn’t Clint let me get my fucking suit off?

“Breathe with me, Barnes! In through your nose for eight, hold it, and then slowly out your mouth. Come on, Bucky, just breathe with me. You’re hyperventilating, I need you to slow your breathing. Watch my lips.”

I didn’t understand how I could hear him over the pounding of my heartbeat in my ears, but his words had confused the shit outta me - I was breathing.

Wasn’t I?

“I- amIdying?”

“It’s alright, you’re safe. You’re not having a heart attack. You’re not dying. But I need you to breathe slowly with me.”

Why was he so obsessed with me breathing? There was nothing wrong with my breathing, was there? I was dying and all he gave a shit about was me breathing.

“C’mon. That’s it,” he crooned, apparently pleased with whatever I had started doing, possibly out of spite to prove I’d been breathing properly the whole time. “I need you to keep breathing like that okay, just keep slowing it down. You’re okay. You’re safe. Just breathe with me, you’re not alone anymore, you’re back on board, we’ve got you. Trust me, you’re going to be okay, we’re going home. Steve’s gonna come back. You’re safe now.”

I tried focusing on his face but everything was kinda fuzzy, like it was outta focus.

Why couldn’t I see?

I think I tried to say something in reply, but I don’t know if I did.

I don’t really remember much, apart from the fact I thought *Valkyrie* was all a dream, that it was a lie, that they weren’t really here for me, that I was starving to death back on Mars…

That it was some dream, some last moment synaptic misfire as I died, suffocating adrift in the MAV.

It felt like we were in that hallway for hours, but Barton told me later it was only a few minutes, Clint wrapped around me, keeping me from breaking the seal on my suit in desperation, forcing me to look at him, to breathe with him, all the while slowly pushing us towards the crew quarters and the MedBay that lay at the end of the hall.

Like I said, it was all really fucking overwhelming and my starvation addled brain couldn’t cope for shit.

This morning I woke up on Mars.

An hour ago I was sitting in an MAV on Mars.

Now I’m going home.

It was so fucking surreal.

“You’re gonna think I’m fucking crazy,” I croaked, testing my voice when I felt more in control, though I was still trembling, my heart-rate still elevated.

“Nah, you haven’t taken up fishing,” Clint’s sounded relieved, shooting me a grin. “Fishing is definitely a sign of madness. The second sign actually. Having a moment after death-defying daring do? That’s normal as shit.”

“If you say so,” I mumbled, embarrassed and unsure, glancing back down the hallway over Clint’s shoulder.

No sign of Steve.

I don’t know if I was happy he hadn’t witnessed that or upset he still wasn’t there.

Don’t know how I was feeling about much.

“Wanna know the first sign of madness?”

I just nodded, focused on trying to will my heart-rate to slow down some more.

“Moving to Jersey. Fuck, even visiting Jersey. *That’s* fucking crazy. This? This ain’t crazy.”

I’ll admit it, I laughed. A little hoarse and a lot manic, but he made me laugh. It’s his god-damn super power.

“You doing okay, man?” He placed both hands on the sides of my helmet, getting as close as he could, eyes assessing.

Fuck knows what I looked like. Probably as shit as I felt.

I just scoffed. I didn’t know what I was, but I could tell it wasn’t anywhere near the ‘okay’ Zip code. I know Sam’d kick my ass for it, but shame welled up in me. Trust me, I get it; I’m allowed to feel upset and overwhelmed, I’m allowed to not know how I fucking feel. I’m allowed to be ecstatic and
still unsure.

I’m allowed to be all over the place, but that didn’t stop the fuckin’ little voice in the back of my head that kept telling me that anything other than pure happiness was just ungrateful.

I had what I wanted. Everything I’d worked towards for eighteen months. I was going home.

“Yeah.” I didn’t sound sincere to my own ears. “I dunno what that was.” I was fucking mortified; I was an inch from fucking crying again.

I am so fucking sick of that shit, I can’t even tell you.

“That was an anxiety attack. You’ve kept it together pretty fucking well for over eighteen months, Barnes. I’m shocked it didn’t happen before.”

“How I stop it happening again?”

“Talk to Sam – he can teach you some calming techniques. Talk to Steve. Talk to any of us. Maybe it won’t happen again once it really sinks in you’re here. Maybe it will. We’ll help you Bucky. You gone through shit we can’t understand, but we wanna help.”

“Thanks.” I really didn’t wanna talk about it. Not right then. Not ever, if I had my say, but I wasn’t stupid enough to think that was something I was going to get. All I wanted was a day. One fucking day in which nothing shitty happened, nothing made me feel like I was gonna die.

Haven’t I had enough of that shit today?

I just want a day. A day I wasn’t scared, or tired or in pain.

I just want Steve.

And sleep.

Sleep pressed up to Steve, so he was there every time I woke up.

That’d make it real.

“Once Valkyrie is pressurized again, we can get your suit off. Being in a fishbowl isn’t gonna help. Once you can interact with the ship more, it’s gonna feel more real and it might make you feel calmer. We’ll get your glucose levels up too, that’ll help.”

“Hope so,” I answered, wanting to just stop talking about it, clenching my trembling hands to try and make them stop shaking, glad I wasn’t having to walk, ‘cos my legs felt like shit.

“Let’s get you checked out and then you can snuggle with your honey.”

Thank God for Barton. If anyone could be relied on to avoid sensitive subjects when someone wanted, it was the Idiot. He’s been through enough shit in his life to never pry or push or force someone into talking, and right now he knew I wanted to talk about anything except what’d just happened.

Sure, a lot of the time he might not have the tact of a drunken frat boy, but he can change the subject like a champ.

Even if it was to me and Steve.
“Do me a fucking favour?” I half-heartedly complained – and did you really think I was going to stop that just ‘cos I’m back on Valkyrie? – and rolled my eyes, just able to rustle up a scowl. “Never say that again.”

“Aww snookums, don't be like that.”

“Shut up.”

“Come on, sweetness,” Clint wheedled with a smirk. "He’s gonna wanna know you’re okay and the sooner I check you over, the sooner you guys can go-”

“Careful,” I warned, content to get towed along as Clint bullied me towards his bunk, and all the friendly medical equipment he was going to poke and prod me with, happy to comply with his order to go limp and let him do all the hard work. Honestly, I don’t think I could have moved under my own steam even if I wanted to: I felt like an overcooked noodle and about as structurally sound. I was exhausted, sweating fucking buckets which is disgusting in zero-g,’cos you pickle in your own sweat balls, and disorientated as fuck seeing as how I hadn’t floated in a year and a half, but none of that shit stopped me from running my gloved hands along the walls, grounding myself as much as I could with my gloves on, soaking in every inch of the ship we passed, trying to convince myself it was all real, that I was really there. Between the thundering in my head, the hissing of my radio, and my own fractured breathing, I couldn’t hear any of Valkyrie’s clicks and whirrs, what Natasha always referred to as ‘talking’.

Which was creepy.

Right then, I’d have given anything to hear Valkyrie talk, further proof I was on board. Between my blurry vision making my beautiful girl all fuzzy, being unable to touch her, and not being able to hear her, it was kinda hard to believe it was real.

“You guys can cuddle.” For a moment I’d forgotten Clint had been talking, confused what he meant about cuddling a ship, before my overwhelmed brain kicked back in.

“Idiot.”

“Marvin The Martian. Seriously Barnes, you look like shit, I gotta check you out. And, as a doctor, it’s my duty to prescribe sexual healing…”

The fucker sang at me the rest of way back to his quarters and while we had to wait – only somewhat patiently – for Natasha to repressurize Valkyrie after her impromptu decompression, floating around like idiots, slowly gaining gravity as Sam got the rotation fired up again.

It’s gonna sound odd, but listening to him sing – or try, anyway – was pretty fucking reassuring.

Believe me, in all other situations his singing is like cats in heat, but right then, it was what I needed. Not once, in all my fantasies about getting back on Valkyrie, did I ever imagine Clint crooning at me. Even in death, I don’t think I’d have spent my last moments thinking about Clint’s shitty singing – and ain’t that a generous word for it – unless I wanted to reach the Pearly Gates muttering ‘God fucking damn it’.

So this had to be real.

Right?
By the end of the third Marvin Gaye travesty, the shaking was down to a low level tremble though I wouldn’t have bet a nickel on being able to stand under my own steam, and my heart rate, though still elevated was slower. Clint monitored my vitals from my bio-monitor as we waited to start the full exam. Fucker wasn’t even subtle about it either.

Hey, ain’t nobody tracked my vitals but me for 18 months. A fella is allowed to get proprietorial.

I guess he wasn’t concerned by what he was seeing because he didn’t stop singing, and he was smiling so either he’s a better actor than he lets on, or I was gonna make it. Apparent mental breakdown aside.

Who knew, Marvin Gaye, musical doctor?

Dr Bossy-Barton insisted he strip his suit off first, or at least partially, so he could better mobilize in case I had another issue, once we got the all clear, doing a shit impersonation of a stewardess’, ‘if you are traveling with small children, don your oxygen mask first, before helping others,’ shtick.

God, I missed this fucker.

When he finally got around to removing my helmet, having stripped to the waist, he pulled a really unpleasant face.

Clumsily, hand still shaky, I reached up to my face, thinking I’d gotten a head wound from my ride, but seconds later Clint burst out with, “Dude, I may not be up on Shakespeare, but something’s rotten in the state of Valkyrie and it’s you! Fuck man, you stink!”

“Thanks. That’s the problem with Mars; there’s nobody to pretty yourself up for. I let standards slip.”

“I want a shower.”

“With a certain someone, I’d bet.” He flourished a wet wipe from a box so I could wash my face down as he resisted the urge to gag, and after it came away pretty fucking grimy after a couple swipes, he pulled a large container of body wipes from a cupboard and thrust them at me.

I got his point; in microgravity odors quickly permeate the environment, and we were in a pretty small room. I was filling it pretty damn effectively with what Ma would have politely referred to as ‘musk’ and what others would have, more accurately, called ‘eau d’garbage’, even I could tell that and my sense of smell is pretty fucked.

I took the hint even if he was a fucking drama queen. He oughtta try using the bathroom after him. That’s a stench.

“Oh, and here, eat a couple of these, just don’t tell Nat.” He glanced at the door, like someone was actually gonna come bursting in – because he’s an idiot – Clint pulled out the mobile X-Ray unit and then reached underneath, opening some sort of hatch from the sound of it, a small bag smacking into my shoulder a moment later.

“Jelly babies?”

“What?!?”

“You used your weight allotment on jelly babies?”
He sniffed.

“On a multitude of candies, excuse you, these are what’s left. If you don’t want ‘em-” He made to grab them and I snatched them up, wincing as I did. In the end I couldn’t manipulate my hands enough to open the Ziploc, but he took pity without a word and shook out a couple of the misshapen buggers into my hand.

I hate jelly babies. They’re slimy and weird and they’re not as good as jelly beans. But fuck it was good. I practically inhaled one, uncariring how the pure sugar made my teeth ache, before Clint made me slow down.

“Easy dude, you’ll upset your stomach. It’s gonna take me a minute to set up your IVs, but these are a simple sugar, get your blood glucose levels up, help you recover from everything. Just don’t-”

“Tell Nat, yeah I get it.”

Once I’d nibbled the second one slowly enough for him, and washed down my face again, the good doctor had shed the rest of his suit, piling it up in the corner in a less than engineer-approved heap, and then began to strip me of the rest of my suit, bitching the whole way – it ain’t just me on this ship with a PhD in whining. He was also right, getting that fucking EVA suit off, being able to pick shit up and feel it, made all the difference in the world – and bossing me about and, talking the whole time about taking x-rays and explaining why he wasn’t gonna wrap my ribs, examining my arm from a million and one angles, and what he was gonna take blood for and the whole time I felt like I was crawling out of my skin.

Do you know what it’s like to have skin on skin contact with someone after eighteen months without it?

It’s fucking weird.

It was like my body had forgotten the difference pain and mere touch, flinching away at first when Clint checked me over, goose-bumps shivering out across my skin, the hairs on the back of my neck standing up so hard it hurt as my brain seemed to fire pulses of current at random to any body part it chose.

My body just didn’t know how to react to it anymore. Clint would be holding my wrist and my brain couldn’t tell if it was the inside or outside of my wrist. He’d run his fingertips over a scar and it felt like sandpaper rasped over brand new skin.

Which was real fun.

I was already feeling pretty fucked over by the day’s events as it was, finally getting what I’d wanted for months – some human contact, and now my body was freaking out.

The romantic in me insisted it was because instead of the calloused touch of Steve, it was Barton’s, his hands a little too cool, his touch purely professional as he strapped me to every machine known to man. I got pulled around, and stuck with needles, and generally made to feel like a laboratory experiment. I think I was moments away from just repeating my Employee ID as answer to every question in the hope it’d speed shit along.

My palms itched with wanting to touch Steve, to feel his warmth and the soft smoothness of his skin, greedy, to press my body to his and relearn every sensation and response that could be wrung from my body.

But of course I had to fucking wait.
It felt like years.

If he were honest, Clint was both shocked by and impressed with Bucky’s physical state. He was at turns in better and worse condition than Clint had expected.

Life in space took an immense told upon the body; without 1G, astronauts faces bloated, their features swollen by the shift in retained fluids; no matter how many hours were spent in the gym, their thigh and calf muscles atrophied causing them all to look like gym rats that perpetually skipped leg day; exhaustion and stress was writ large upon their faces.

And all that was just the visible effects.

On Valkyrie, the effects were slowed but not altogether avoided, and in order to maintain full health, the astronaut’s food and medical supplies were perfectly balanced to mitigate muscle and bone loss.

But Bucky had been subsisting on potatoes, his diet almost entirely devoid of protein and calcium, sufficient calories practically a distant memory. The only thing he’d really had in his favour was the gravity, and even that wasn’t enough.

Bucky was a wreck.

Clint watched with a slight frown as his friend calmly held out a still trembling too-thin arm for the tourniquet, balling his fist a few times without prompting to plump the vein, though they were already stark and easily accessible. The botanist had never kicked up a fuss during the team’s weekly specimen collections – unlike a Norwegian who’d go all Hulk anytime he saw Clint and his needles coming before scurrying away like a dog that had heard the word ‘vet’ – but the docility was a little troubling, particularly after the incident in the hall.

The skin over the antecubital vein bore a couple fresh scars amongst the myriad of old ones from previous testing, the signs of a man with minimal medical training trying to take his own blood one handed, and not for the first time Clint wondered what Bucky had endured and what he’d had to do to ensure his own survival.

“I tried to save some units of my own blood.” Clint looked up to find Bucky staring at him, unflinching.

“Why?”

Bucky’s laugh was harsh and humourless.

“Just in case, Barton, just in case.” He jerked his chin to where the needle was penetrating his skin, red blood flowing up into the collection tube. “This going to the vampires?”

“Yeah, man.”

Over their time as AsCans and crew, the astronauts had been subjected to countless rounds of tests, enough to have been turned into pin cushions. Every possible bodily fluid was collected on a routine basis, stress tests and EKGs, fMRIs, and on and on, the results of all of it going into the astronaut’s file as a baseline and every result of every test Clint ran aboard Valkyrie was sent back for Cho and her team to masturbate over.
According to Clint anyway.

Or maybe that was just about Thor’s results.

Withdrawing the needle, Clint applied pressure on the wound before deftly applying a bandaid over it and, to see if it would get a reaction, rummaged in a bin behind him, triumphantly holding a small sample cup out to Bucky.

“If you could fill this.”

Automatically, Bucky took the cup and frowned.

“It’s kinda small.”

“What sorta output are you expecting?”

“More than this?” It had been hours since Bucky’s last planetside piss and the 80ml cup wasn’t gonna cut it, unless Barton had installed a toilet in the MedBay while he’d been away.

Clint whistled, a sly look on his face.

“Wow, Rogers is a lucky guy.”

Bucky’s brows attempted to lower further and succeeded only in creating a deep crease between them.

“Huh?”

“If you’re producing more than about 5ml, I’d be impressed. Bemused, but impressed.

“What?”

“I mean, I know I’m researching the effects of microgravity on motility, but I had no idea there was going to be an output increase too. I better tell NASA.” He clutched a hand over his heart. “I’m gonna win a Nobel for this.”

“What?”

“I’m gonna need to get the other guys in here too. Wonder if I can be my own test subject or if that’d just muddy the waters.”

“What?” Frustrated, Bucky tossed the cup back, wincing at both the pain that flared in his chest at the movement and the pathetic nature of the throw, the cup bouncing harmlessly off Clint’s chest.

“But it you also need a piss, you’re gonna have to wait a minute.”

“Also?” Bucky huffed a sigh before understanding dawned and he scowled at Clint. “You’re disgusting.”

“I’m hilarious. But actually I am gonna need a urine sample.”

It was interminable. Clint ran test after test, hooked me up to a banana bag – refusing to take no for
an answer because he’s an asshole – got all up close and disturbingly personal with my mouth, or I
guess my teeth, for about three seconds before he shoved some mouthwash at me muttering
something about how Steve would thank him for it and bemoaning a lack of toothbrushes in the
MedBay. He even trimmed my beard, claiming it was to get a better look at my skin and any lesions
my facial hair could have been hiding, but I think he was helping pretty me up for my date.

The whole time I just got more and more antsy. I tried to spend that time filling my hands with
everything I could a hold of, seeing as how I couldn’t hold Steve. I ran the palms of my hands over
the weave of the blankets, no different to what were in the Hab but a world away because they were
Valkyrie’s sheets. Every instrument, every device, every film, anything Clint let me pick up, even
the damn sample cups, I held. I didn’t have half this shit down in New Brooklyn, wouldn’t know
their names or what they even looked like to imagine them if this were a dream, but if I could feel
their weight, their textures, the sounds they made when I put them back down, it made being on
board a little more real.

And distracted me from being locked in a room without the guy I wanted.

The MedBay, with both suits in it, and all the shit deemed necessary to keep us all in good health,
could only hold the two of us and I knew, I knew Steve was waiting in the hall.

He might’ve had to be all Commander Rogers and deal with the airlock door, but now the ship was
pressurised, the others could look after it, and they’d have fucking carried him to Clint’s quarters if
they had to.

More than once Clint laughed at me for staring at the door, as though if I stared hard enough I’d be
able to see through it, fighting my body’s desire to sleep for want of seeing Steve. Bastard wouldn’t
even open the door, spinning some shit about patient confidentiality, like he wasn’t going to have to
provide Steve, and NASA, with a report on my health anyway.

I could tell my impromptu appointment was drawing to a close when Clint made me drink an unholy
amount of some god-awful glucose Ensure shit, muttering darkly about my weight, and swallow
about a million and one pills – I didn’t know what most of ‘em were for and didn’t give a shit if it
shut Barton up and got me to Steve faster – and listen to a lecture on what to look out for with the
acceleration sickness, what was normal, what wasn’t, to come to him if the pain in my ribs got
worse, blah blah fucking blah.

All I cared about was that I was gonna be able to get out the damn room. It was like when the Father
James would draw Mass to a close when I was a kid; I was practically vibrating, ready to say Amen
and head to the door ASAP.

“You’re not listening to me are you?” Clint’s voice broke through my latest attempt to will the door
out of existence.

“Huh? Oh, yeah, totally.”

The little shit just laughed.

“What I just tell you?”

“Uh…”

“Wow,” he just rolled his eyes at me. “Eh, whatareyougonnado?” The IV had finally, finally dripped
it’s last, the slow fucker, and Clint slid the catheter from my skin, bandaged me up and stood.

C’mon. It’s not like you’re gonna pay attention.”
I was halfway to my feet before he’d even finished his sentence, grabbing onto the wall when the room span a little – okay, okay, a lot – and my knees buckled a bit, waving away Clint’s offer of help in favour of wrenching the door open.

No shaky legs were stopping me now.

Steve, like I’d guessed, was just outside the door with his back to us, broad shoulders blocking the exit, but he spun around the second he heard Clint’s laugh.

“You’d think he was a new father in the 40s.” Clint placed a hand gently on my shoulder.

“Congratulations, Cap, it’s a boy.”

He’s standing so forlornly, in socked feet, the sleeves of his Henley pulled down low over his knuckles as he gave me an assessing look, taking in every visible sign of my less than perfect health.

“You okay, Buck?” Steve questioned me softly.

I musta looked real fucking different to the last time we met, and I ain’t just talking about the beard and the hair; I’ve lost weight. I’ve gained wrinkles. I’m pale as fuck. I got new scars…

But the look he’s giving me, the way one of his hands keeps making this jerky movement like he wants to grab me, how his gaze keep flicking between my eyes and mouth tells me he hasn’t changed his mind.

Neither have I.

Never will.

I reached out my hand to him, and he slowly lifted his own. I was gratified to see his hand was shaking as much as mine, but he grabbed onto my hand like it was his fucking lifeline, and the tense expression on his face eased.

Apparently uncaring of Clint, Steve raised his other hand and laid it along my jaw, palm smoothing back until his fingers curled around the back of my neck, thumb stroking the sensitive skin behind my ear, this time the touch pleasurable instead of torture, as goose-bumps rippled down my spine.

I could breathe again as I leaned into his touch, murmuring some nonsense greeting.

“You might want to ask me that, Rogers. Your boy here was more focused on glowering at me for putting his health first, and staring at the door like he had X-Ray vision, than what I was saying.”

“I was not!” It was a weak defence and we all knew it, given how I couldn’t rip my eyes away from Steve.

He looked like hell; he was wearing his own exhaustion like some sorta shield, dark bruises around his eyes spoke of more than a few nights without sleep and several days’ worth of stubble darkened his jaw.

Even exhausted he was the most gorgeous thing I’ve ever seen.

“You were too! Bucky’s gonna be fine, in time, but I got some ground-rules. Be careful – he’s got seven cracked ribs, he’s weak as hell, and he’s gonna feel like shit for a good while.”

I coulda kissed him for not mentioning the anxiety thing.
“Uplifting, ain’t he?” I grumbled, swaying towards Steve warmth, catching the scent of his soap and a hint of fresh sweat.

“He’s not to sleep alone, though, I guess that isn’t a problem.” Even without looking I knew the guy was leering. “Or shower alone because he’s gonna be dizzy and weak in this level of gravity and we don’t have a bench, so in the interests of his health, someone is gonna have to give him a hand.”

“Okay.”

“And,” Clint sounded fucking amused, which should have set alarm bells ringing, “absolutely no sex until I clear him.”

“What?!” Okay, maybe the guy had a point, ‘cos just spinning towards him had my vision greying out at the sides, along with what felt like every inch of my body cashing pain cheques with rude promises about more to come.

I wanna be real fucking athletic when I get Steve naked. Right now I could barely turn around.

“Fuck!” My hands reflexively grasped onto Steve’s shirt to stop from stumbling. No way I wanted to look any weaker than I was. Or, y’know, as weak as I actually was. Then he’d treat me like glass.

The other unfortunate side-effect of it was Steve’s hand falling away from me.

I wanted it back.

“No fucking. Broken ribs,” Clint repeated as though talking to a child, “considerable bruising over most of your body, malnutrition, dizziness, blurred vision, your blood work is running so maybe there’s more. Your body is seriously stressed out. No sex. Yet.”

“You’ve got to be kidd-” No doctor was stopping me now.

“Okay, Doc,” Steve interrupted me.

Fucking Judas.

Or not fucking, as the case might be.

Well, I wasn’t taking that lying down. I was damn well taking something but not that.

“Okay?!,” I demanded, “What part of that was ‘okay’?”

“Buck-”

“I’m gonna let you guys argue this out, I’m gonna go find out what the mystery meal is.”

When Rogers didn’t move, Clint huffed, planted his hands on Steve’s chest and pushed him back enough to allow Clint to slink out and make his way down the hall towards Sam’s bunk.

“No sex!” He yelled again, for good measure, way too much laughter in his voice.

Can’t believe I missed that little shit.

How come he gets to have sex and I don’t?

He did have one good idea though.
Touching Steve.

Even if I couldn’t get laid, I could lay hands on Steve.

“Hey,” I grinned. “C’mere.” The pain that raising my hand caused was more than worth it a second later when Steve immediately thread his fingers through mine and lurched forward, pressing my back against the bulkhead and stepping close.

“You’re really here,” he rasped in my ear, voice hitching.

Steve sounded almost breathless, and my stomach knotted tight in a way that had nothing to do with everything I’d been through. Our bodies were close, not quite touching, not yet, but close enough I could feel his body heat, feel the warm wash of his breath over my cheek and ruffling my hair. 

To catch the familiar and oh so beloved scent of his skin, soap, and sweat. 

Oh god.

This was real.

“Steve,” I sobbed, pulling him close to blanket my body, burying my face in the crook of his neck, hauling as deep a breath as my ribs allowed, breathing him into me. So pressed together were we, I could feel the vibration of his approving rumble as I clutched him closer. 

Right where I’ve fuckin’ wanted him for years. I’m not gonna get all Hallmark on your asses, but I ain’t never felt anything like it before, just holding him.

Fuck. It’s taken us three years to get to this point.

We’re idiots, but now I got him, I ain’t ever letting him go.

Y’all can fucking quote me on that.

It was awkward – even with the pills, I was in a lot of pain - and we had to arrange ourselves pretty carefully, neither of us willing to give up any contact, but you shoulda learned by now I’m a determined bastard, and I get what I want.

He was fucking adorable. Now we had no audience, he was all shy when I pulled back to stare at his face, blushing the prettiest colour I’ve ever seen, free hand brushing his hair back off his face. 

I definitely ain’t admitting that now the moment was here, I was feeling pretty fucking shy myself.

Think my beard covered most of the blush.

Probably not.

“Hi.”

“Hey.”

“Miss me, doll?”

“Yeah,” he breathed, nuzzling against my temple, pressing kiss after kiss to my hair, as though he didn’t care how disgusting it probably was, like he couldn’t not press his lips against me.

Like it was a matter of survival.
We could argue about just how much 'no sex' really meant 'no sex' later - a fight I intend to win by the way - but right now this was all I wanted.

All that mattered was that Steve had one hand tangled in my hair cradling my skull and the other splayed across the small of my back and I was pressed against him from tip to toe, one hand grasping his hip and the other resting between his shoulder-blades, resting my forehead against his, slowing my breath to match his as I soaked in his warmth. I soaked it all in; the grip of his hands, the way his fingers curled into my skin, the press of his chest against mine when we inhaled in tandem. Every breath brought our chests together, and along with the sparks of pain that set off, it also sent warmth cascading through me.

Every single fucking thing I had to go through down on the hell planet, every single thing I endured to get to Schiaparelli…all of it led me to this moment.

Now it was real.

I didn’t give a shit how much it hurt; I was gonna hold onto him. I felt…shit, I am gonna get all Hallmark, but I felt lit up, all warm and gooey, safe and secure in Steve’s arms. I knew, I knew in my damn bones, that he wanted me there permanently, never gonna let me go, never gonna let anything get between us.

I know, I know, no shit, right? Dude just mutinied, probably threw away a career he spent his life achieving, fucking stole a billion dollar spacecraft, and travelled 40 million miles to come get me. But it all makes me so happy I’m shit terrified. Terrified I’ll somehow fuck it up, that something will take it away, but y’know? That’s okay.

It means I’ll fight like the fucking devil to keep him. I didn’t spend my life on Mars living in fear, and I ain’t startin’ with that shit now. I’m grabbing hold of this happiness, this future, of Steve, with both hands.

Speaking of holding.

If I’m honest, I think Steve was holding me, taking much of my weight as I pressed closer to nuzzle my face into his neck, smiling at his chuff of surprise and the delicious way he shivered against me when my beard scraped his skin.

I could feel my smile stretching so wide it was painful. Steve was holding me like I was the most important thing in the universe and I’d be the worst liar if I said I wasn’t loving it. I wanted to crawl right into him and just stay in his arms for about the next hundred years, safe and happy.

But I did need one more thing.

Skin.

I needed his skin.

Wordless, desperate after so long without it, I scrabbled frantically with the sleeves of the too-tight Henley he wore. Under normal circumstances I would have been appreciating the hell out of it, but I needed it gone as I pulled and pushed clumsily at the fabric, revealing his arms to the elbow, needing his skin against mine more than I needed air.

Steve’s arms are a work of fucking art. I’m serious. But it ain’t just those immense biceps that could probably hold a helicopter down. Nah, I’m all about his forearms. They’re strong, muscular and corded, dusted with dark blond hair that rasped and tickled against my palms as I ran my hands along the tendons and traced the prominent veins as I took in his warmth and strength and presence.
Without me even having to ask, Steve knew what I wanted, dropping a hand to the hem of my own shirt, nudging it easily aside and curling his large hand around my bare hip, the prominent knob of my pelvis fitting perfectly into his palm, fingers spanning over as much of my side as he could touch, smoothing gently back and forth.

The feel of Steve’s hand on my skin was everything that Clint’s wasn’t, warm and soothing, yet setting my skin on fire as Steve rubbed his other hand in circles on my back, trailing up as far as my shirt allowed, fingers bumping and tracing along my backbone, swirling nonsense patterns against the skin, tender as he explored.

We’re finally here, finally in this moment. It was one of those ‘blink and you’ll miss it’ moments that mean everything will change, from one second to the next the universe will collapse and reform into something brilliant and new.

It’s about fucking time.

“Is this permanent?” I whispered, hating the quaver in my voice.

“Yes,” Steve whispered against my cheek. “We’re going home.”

“Why did you risk your life like that, fuckin’ noble idiot?” I asked into his neck, unwilling to move away, nose buried in the collar of his shirt. “You could have died!”

I whined in protest when he stepped back from me, putting only inches between us that felt like miles, though his hands never left my skin, though the hand on my back slipped up further to reach through the collar so he could get a gentle grip on my hair, tipping my head back a little, eyes flashing at the moan I couldn’t hold back, a soft smile on his face.

"Because I'm with you, Bucky. To the end of the line. I'm always going to come back for you."

“You mutinied for me,” I teased to close to tears for comfort.

“I’d tear down the world for you. I love you.” Steve whispered the words into the space between us, so soft and earnest. “I love you.”

I shuddered in his grasp, curling my hands around his elbows to pull him back to me. What do you know, my heart's racing again. For the best reason this time. Years I wanted to say this. Years I’ve had the words on the tip of my tongue, constantly having to bite them back, keep to protocol, not risk my place on the mission, not endanger Steve’s command. I survived the impossible, just to get back to this moment.

Finally, finally I can look into his perfectly imperfect eyes, and just say it.

“I love you, Stevie. Y’gotta know that. Love you so much.”

Steve’s fingers released my hair with a smile that’d have lit up New York for a month, palm shifting to cup the back of my head, his own dropping to mine as he let our foreheads come together, his warm breaths puffing against my lips. The longer our gazes held, the more I watched Steve’s expression shift, watched as the tension returned, but this time I knew it had nothing to do with fear. No, this was something far more primal and once my eyeliner dropped, I couldn’t have dragged my gaze from his mouth it my life depended on it.

Right then, it felt like my life depended on what was coming. I was going to go out of my fucking mind if Steve didn’t do something.
Just in case he didn’t get the memo though…

“Kiss me.”

It’s strangled and breathy, and more plea than order, but fuck dignity, I’ve waited years and pulled a Lazarus for this moment.

It did the trick.

The first press of his dry, slightly chapped lips to mine was worth every moment I had refused to give up as Mars tried to kill me.

It was the moment I knew all this was no fucking dream.

Couldn’t be.

It was fucking better than anything I coulda imagined; me and Stevie, we got this connection and my dreams, they never got it right. They never felt like this.

I could happily stay in that moment for the rest of my life. Just drowning in everything from the heat of his mouth, to the firm press of Steve’s fingers as his blunt nails scratched against my skull to the same tempo of his slick tongue as it stroked along mine, maddening and slow, sending shivers down my spine.

Everything was real.

Everything was Steve. Steve’s body against mine, his skin against mine, his heart beating against my chest, his scent around me.

But, uh, if Steve asks, keep that under your hat, yeah? I got an image to maintain.

It was nothing like the hungry claiming I’d always half-imagined it would be, all rough hands and no restraint, possessive and fierce.

Yeah, I’ve imagined it. Years, remember?

My wildest imaginings never felt like the softest tease of lips, tender but not tentative. Like Steve was being careful with me, but not because he thought I was fragile, but because I was precious to him.

Steve was so gentle, his kiss a slow caress as he brushed over my mouth again and again, in turns nipping, and licking teasingly at my lips, playful and sweet, sparking off every nerve ending, little moans escaping the back of his throat, like he just couldn’t hold ‘em in.

For all I’ve spent years wanting to climb this man like a tree, for once in my life I didn’t push. Instead, I took my time to explore him as thoroughly as he was me, sinking into the slide of our lips, the wet heat of his tongue teasing into my mouth, hoarding away every sweet sigh and happy murmur that spilled forth from Steve’s throat.

Could spend the rest of my life cataloguing all the different sounds Steve makes, and whaddya know, I guess I’m gonna have a shot at that.

I could do nothing but go with it, suckling Steve’s full lower lip between my own to deliver the odd teasing nibble, shivering at the trace of his tongue over mine as I trailed my fingers down that strong back, glutting my desire to touch, learning the swell of his vertebrae, the firmness of his muscles, the
sweet curve of his spine.

The sweeter curve of his ass.

The noise that escaped Steve’s mouth when I filled my palms with that amazing ass and squeezed was the filthiest thing I’ve ever heard, raw and needy like it’d been torn from his chest, and his hands on me tightened and his kisses turned rough, lips and tongue and teeth taking possession of my mouth.

Steve’s breathing was harsh and ragged against my lips as I felt him trying to hold himself back from just pinning me to the bulkhead and grinding against me, and at just the thought of that, a warmth I ain’t felt in eighteen months began to coil in my belly.

Nothin’ was gonna come of it, even if Clint had cleared me, I ain’t that stupid, I know my abused body couldn’t get it up with a crane even with the incredible incentive of six foot of prime Commander steak pressed against me head to toe.

Rather than rue what couldn’t be, I lost myself in what was. In Steve’s mouth scorching my skin as it dragged along my jawline before returning to my mouth, deep drugging kisses, all wet heat and slick tongue. In Steve’s taste, the faint hint of a breakfast of chewy egg-thingy and pure Steve. In how I was surrounded by his scent and the feel of him, all hard muscle and soft skin. Our mouths clashed, harsh and bruising but oh-so welcome, the pleasure overwhelming the pain it caused with ease. I clutched at him, my ragged fingernails surely pricking into Steve’s skin but he didn’t seem to care as I kissed him back for all I was worth.

I pushed my tongue into Steve’s mouth, not content with being submissive, licking over his teeth, learning every ridge of the roof of his mouth, sucking his questing tongue and learning his taste and touch.

It was intoxicating.

Way better than any fucking dream.

I did need to breathe though, and it was with regret that I dragged my lips away from Steve’s, his possessive, demanding mouth chasing mine as I tried to suck in air.

“Steve…” I couldn’t seem to remember any other words, couldn’t tell him how amazing it all felt, how much I wanted him, how incredible he was. So I tried to convey it all in his name.

“Steve…”

“I know,” he murmured back, eyes snapping up to mine from where he’d been staring at my lips, his own red and slick. My breath caught in my throat at the look in his eyes, his expression was so full of heat, no pretence between us, just need and want.

I wanted to say something, anything, but my tongue felt clumsy and unwieldy in my mouth, my lips moving soundlessly, uselessly as I tried to form words.

“I know,” he rumbled again, burying his face in my neck, nosing the collar of my shirt aside to leave sucking kisses along my throat, snuffling against my skin, his hot, moist breath washing over my collarbone, my skin alight with the anticipation of his touch. The kisses weren’t hard enough to bruise, but the very thought of Steve marking me sent sparks down my spine, caused my ass to clench, my breath to quicken.

Which was of course when Steve ruined the moment.
"You stink." Steve mumbled seriously after lifting his head, his face creased up in a grimace, before pressing a lingering kiss to my mouth, and then another and another, all the while his nose crinkled up in disgust.

Which, if anyone asks, was not at all adorable.

In retaliation, and just to be a contrary bastard – gotta let the fella know what he was letting himself in for - I wrapped my arms up around Steve’s neck, holding his head against my shoulder, and held on as tight as I could, pressing my face against his, letting my lips brush against his ear.

"Sweet talker," I whispered before nipping the lobe gently between my teeth in censure.

Steve made a strangled noise, primal and raw. I’ve never heard Steve sound like that before. Sarcastic, sure. Commanding, on the daily. But that guttural rumble slid down my spine and tugged at something, something dark and wanting.

Something I thought I’d lost but was thrilled to be reunited with.

I buried my face into his neck and nuzzled against his throat, drawing his clean scent into my lungs as I ran my lips idly along the tendon I found, tracing my tongue along its length before applying my teeth in mild reproach at his words, curious to gauge his reaction. At which Steve let out a high-pitched whine, his hips making an aborted little thrust before he caught himself.

I filed that little nugget of information gold away for future ruthless mining, unable to stop my hips from rocking forward into his, thrilling at the hardness I found there.

I pressed closer, hands dropping to cradle his hips, trying to encourage him to join me, frustrated at how he seemed able to resist my urgings.

“Bucky…Bucky…”

It was like he was stuck on repeat as he ran his lips along my prominent collarbone, pressing kisses into the hollow of my throat as though tasting my pulse, as though he couldn’t bear to have his lips separated from my skin. His body was wound so tight, so tense that he’d frozen in place, the muscles beneath my touch rock hard as he fought for control I was 100% percent certain I wanted him to lose but also 100% sure I wasn’t up for experiencing no matter how I’d argued with Clint.

Motherfucking Mars still ruining my life.

He turned his head and nudged his nose against my cheek until I relented and turned to him with a smile only to have him brush his lips gently against mine once more, so soft and achingly sweet I could have cried.

Which I’d have blamed on the starvation, just FYI.

Instead, I pushed forward and deepened the kiss, trying to pour all my love and happiness and adoration, and goddamn fucking gratitude into that press of lips, and for one brief, breath-taking heartbeat, he responded, tongue slipping past my lips to tease mine before he slipped away with a groan.

"You really stink. You should shower." Despite his words his grip stayed tight around my waist, large hands holding me close, but also holding me still, stopping my pathetic little attempt to grind my hips against his.

I couldn’t help myself, even as I glowered at him, which made my eyeballs burn because G-force is a
fucker. My hand slid from his waist with a pinch to his hip, unable to help my answering smile when he yelped and laughed, up his chest, over the curve of his pec until my fingers hooked into his collar, twisting the fabric in my grasp as I drew him back down again, closing the distance between us, delighting in how he shivered as my lips brushed against his as I spoke.

“How quick the romance dies.”

He stole a kiss, sucking my lower lip into his mouth before releasing it with a pop.

“Yeah, yeah,” he complained with a smile. “I love you, but we really gotta reintroduce you to soap.”

“You kinda need to let me go, then. Can’t shower like this.”

“Not yet.” On my hips, Steve’s fingers convulsed, gripping me and keeping me still and in his hold, as though he really thought he was in danger of losing contact with me.

“No, I whispered, carefully reaching up to scratch his scalp, mesmerized by the feel of his silky hair kissing and tangling against my skin as it slipped between my fingers. It was something I’d longed to do from the first time I’d seen him run his own fingers through his hair all that time ago in London, torn between the desire to smooth it down and rumple it up.

I got the time to do both now.

“No,” I repeated, “Not yet.”

Not giving a shit about how my ribs protested, I pushed further into Steve’s embrace, stretching as much of my battered body along his as I could, dying to do this naked, feel the heat of his skin against mine but temporarily content with only our shirts between us.

“Nobody would believe me,” Steve chuckled, the rumble of his chest vibrating through mine.

“What?” I managed to get a little closer, dropping my hand from his shirt back to his waist, smoothing my palm around his hip and pressing his lower body closer too, even as I arched back into the hand that was rubbing slow circles on my back, grounding myself in the sensation.

“You’re a snuggler.”

“Shut up.” I turned my face into his neck to rasp my beard against the sensitive skin of his throat in retaliation, uncaring the skin would be left red enough for the others to see. Thrilling at, if I’m honest.

Which y’all know I am.

“You are! You’d be purring right now if you could.”

“Shut. Up.”

The fucker laughed at me.

I drew my head back to try and glower at him, but was distracted by the inability to resist tasting the smirk the little shit shot me.

I get to do that now. I get to touch and kiss him whenever I want.

I loved that smirk all the more when it was pressed against my skin, smudging kisses along my
cheekbone.

“Heads up, Marvin!”

I looked up in time to see Clint’s arm wind back as though he were on the pitcher’s mound, before it snapped forward and a large rectangular box fired towards my head, losing no altitude in the low gravity and so on a collision course with my face until Steve’s reflexes, undulled by pain and starvation, kicked in and snatched it out of the air.

Which meant one of his hands was no longer on me, which was fucking rude.

“What the fuck, Birdbrain?”

“No glove, no love. For when you get clearance.”

“What?”

“Garner’s no fool; he sent condoms. An entire fucking factory worth. Literally.” The little fucker was nearly crying with laughter.

First thing I was gonna do after shower, food, sleep, and snuggling the shit out of Steve?

Conspire to ruin the little shit’s sex life.

“Oh, and, this is from me.” Clint dug something out if his back pocket and flung it at Steve. It was with no small degree of pissed-off-ness that I noted the throw was much lighter.

“Lube is your friend. But not until you’re cleared.”

Steve, the majestic idiot, was blushing. A ruddy pink was spreading across those cheekbones that were definitely sharper than when I’d last seen him, and weren’t we gonna have a fun little chat about that.

Right after I kissed him senseless for being such an adorable fucker.

“Oh and it’s fucking pizza!” Clint’s voice echoed down the hallway, interrupting my plan.

“Garner isn’t a complete asshole – he sent pizza! Condoms and pizza, 100% of the perfect evening!”

“Oh, what?” I asked, too lost in the feel of Steve running his hand up and down my back as he nuzzled against my temple to care all that much, condoms and lube secreted somewhere on his person that I was gonna definitely be hunting for later.

“I’ll explain later,” Steve murmured, pressing a kiss to my ear.

I hummed my reply, not really caring all that much. I already had 100% of my perfect evening.

Okay, 75% but as soon as I could convince Steve to let me blow him, that percentage was gonna rise.

Along with other things later on.

Which was when it really hit me.

There’s gonna be a later.
How crazy is that?

A later in which I can send a message to my family and get well and truly slaughtered by my sister for scaring the shit outta her and Ma.

A message to everyone that helped save my life.

I can’t imagine what it’s like back on Earth.

The sheer number of people who pulled together to save me, a botany geek, not worth any more than any other person is a real mind-fuck. But countries came together in a way they’d never done before, countless people put their own lives on hold to work themselves into early graves to save me.

Royalty personally helped save me.

What the fuck do you buy royalty as a thank you gift? I’m thinking a fruit basket ain’t gonna cut it.

My crew have sacrificed a year of their lives and possibly even their careers to return for me. Entire departments within NASA and JPL set aside everything they were working on to come up with rover and MAV modifications that one man with limited tools could carry out. Other departments busted their asses to create a probe in only two months and when it was destroyed during launch, instead of giving up, they tried again. Wakanda abandoned a project they’d worked on for years to offer their assistance.

For me.

Just me.

Billions, maybe hundreds of billions, of dollars have been spent to bring me home. And I’m no one special. I’m just a kid from Brooklyn.

I’m a nobody.

If I hadn’t been left on Mars nobody would ever remember my name except if their history teachers were real mean on pop quizzes.

Why the fuck would anyone do all that to save me?

I guess, because it’s human nature. Remember those emails and messages from complete strangers that NASA forwarded to me?

That’s why I get to go home.

The desire of humans to comfort others, to care for others, to protect and help others.

It’s instinct.

You see it every single day.

People donating blood, bone marrow, organs to those in need, many of them strangers.

Fundraisers set up to send money and aid to areas across the globe destroyed by natural disasters and war.

We take care of each other. That simple fact is just entrenched in our DNA. We take care of each other. Not because it always benefits us, not because we feel we should, not because it’s always the
logical thing. But because we care.

The world cared.

About me.

I don’t even know what the hell I’m supposed to do with that, apart from be pathetically fucking grateful because my ma didn’t raise a complete shithead.

But like I’ve said before, I’m a nobody kid from Brooklyn, and the world came together to save me.

Wakandan-US relations are blooming because one man, a King, watched the news and decided to act. King T’Challa could have stood by and let me die, nobody would ever have known. But he would have. He made a choice to save me.

The kids down the block from Ma, the ones that brought her groceries, and casseroles and tended her window-boxes when she was grieving me…they meant the world to my ma.

A gal I never met saw a difference in a photograph and insisted I was alive.

Don’t ever tell me that one person can’t change the world. I’m real fond of each of those one persons. They certainly changed my world.

Sure, there are assholes. Like the ones that woulda bet on how I was gonna kick it. But they’re the minority. I had billions of people rooting for me. Doing what they could from prayers to losing months of their lives running simulations in Houston and Pasadena.

Pretty fucking cool, huh?

My ribs hurt like fuck, I’ve got a headache settled behind my eyes, I’m starving – though Clint apparently promises pizza – my sight’s kinda blurry from acceleration sickness and I’m still 211 days from Earth. But I’ve got Steve’s hand in mine, the promise of him by my side and in my life.

Valkyrie is going home.

As for me?

I’m going to the future.

I have one now.

Chapter End Notes

That's it for the main body of the story! I am terrified about this chapter. There's been the slowest of slow burns and while I know I can't please all the people with this chapter, I hope I can please some!

There is an epilogue which I'm editing right now. It MAY be ready by next weekend, but I can't guarantee as while originally I'd thought I'd only want/need to change a little of it, I've actually been overhauling quite a bit, so it'll either be one week or a fortnight but it will be up by then.
Epilogue

Chapter Summary

Bucky finally gets the evening he deserves

Chapter Notes

See the end of the chapter for notes

It’s really weird being back in my bunk. Even if it is weirdly Sahara-hot in here, and there’s a bunch of boxes stuffed floor to ceiling for some reason. Nothin’ else has been touched, the boxes just shoved in around my shit, though it ain’t like we’re all exactly overwhelmed with stuff up here so it was mostly stuff on my desk.

But it’s also real obvious that someone had been making themselves comfortable in my bunk, and I’d bet my life savings that if I were to turn and look at Steve in that moment, the tips of his adorable ears would be pink and he’d be unable to meet my gaze.

As promised, I gave my entertainment drive a quick kiss but it’s the picture of my ma and Becca that gets my heart beating all funny. Back down on Mars I was starting to get shit scared that I was going to forget their faces, that the people in the photos on the wall of the Hab would become, as starvation inched ever closer, mere strangers to me. That one day I’d take them down, confused as to why there were displayed in the first place, their faces nothing to me. That I’d wake up and not be able to remember my ma’s smile, or the way Becca’d smirk when she got me in trouble.

But there they are, smiles bright, hair caught up in the winds that’d plagued the barbeque their apartment block had thrown when the Ares 3 crew had been announced. My girls. They must have been as terrified as I was elated about making the crew, but there they were, beautiful as could be, smiling for me as broad as I’d ever seen. Delighted for me that I’d achieved something I’d wanted for so long, something Pop had wanted for me.

My chest got all tight, my breathing shallow and fast, matching my heart, and for a moment, for just a couple of my racing heartbeats, fear gripped me once more that I was hallucinating, that I’d finally gone insane down on Mars.

The frame creaked with how hard I gripped it. My mind went blank. My heart thumped. My legs shook so bad I didn’t know how I was standing and I could feel my breath turn quick and shallow as my throat tightened. Unlike the hallway with Barton, though, I knew this was real. I knew I was aboard Valkyrie. I knew I was really going home. I know I was not dyin’.

Maybe ‘cos Steve was there.

Maybe ‘cos I’m outta the suit.

Maybe ‘cos the painkillers are really kicking in and my muscles are relaxing too much to wind into a real attack. Maybe ‘cos the situation is so unreal it’s keeping me sane.

Fucked if I know.

Does it matter?
‘Just breathe.  Just breathe.’

When did my inner voice start sounding like Barton?

I have to sit my ass down real quick before I fall down, and Steve immediately ceased his search for my shower kit and knelt at my feet, hands resting on my knees, heavy and reassuring and real. There must have been something desperate in my expression though, ‘cos he didn’t waste any time with questions, hands flowing up my thighs to grip my wrists, thumbs rubbing against the back of my hands.

“Bucky?”

I could only throw him what I hoped was a passable grin, stroking my fingers over the frame. Steve peeked over the top edge to see what I was looking at.

“You wanna send them a message?”

I nodded, squeezing the frame to my chest, eyes closed as I tried to collect myself. I focused on the whooshing sound of my breath as I repeated the trick Clint had taught me, my mind’s eye providing me with memories of my girls – grocery shopping, watching tv, that time we nearly sank a gondola we rented from Loeb boathouse the summer before I left for college. All the mundane moments that filled a life and made it wonderful.

My heart slowed and I opened my eyes, met with a dazzling smile as Steve looked up at me.

“We can film it for you, send ‘em a video. They haven’t seen your handsome face in a while.”

“After,” I mumbled, gesturing to my beard, unkempt and uneven even after Barton had trimmed it.

“I’m in love with a vain man.”

That got a chuckle out of me, and he looked real pleased with himself. It was enough to staunch my residual panic.

“You want your ma to see you like this, if it were you?”

He wrinkled his nose at the thought, looking less like a military hero in charge of a fucking spacecraft and more like a five year old boy told to wash behind his ears by a mother unimpressed with being presented with a filthy child.

“Exactly.”

Looking at the picture reminded me of something I carried for tens of thousands of miles.

“Oh, hey. I have something of yours.” I leaned the frame on my lap, resting safe between Steve’s hands as I freed one of mine, and dug around in my pocket, drawing out the little baggie I’d secreted there, sliding the picture free and handing it over, fumbling the rock atop the entertainment drive as I watched Steve’s reaction.

It was Steve’s turn to go quiet, referent fingers taking the picture I held out.

“You really found it.”

“Couldn’t leave her behind. She was really somethin’, huh?” I knew Steve had few pictures of his family. They’d been poor, the sorta poor where you worry about making rent and feeding yourself. There hadn’t been a lot of money to spare on things like cameras and printing out photos. The photo
I’d brought back to Valkyrie was, as far as I knew, one of only a handful Steve had.

In lieu of an answer, Steve reared up on his knees, one hand curling around the picture and my fingers, the other squeezing my knee, his kiss soft and slow and grateful.

“If that’s how you’re gonna thank me for stuff, I’m gonna be doing the dishes the rest of my life, ain’t I?”

Steve smirked, offering his mouth for another kiss.

Twist my arm why don’t you.

I felt Steve shift, and when he pulled back from the kiss, lingering over releasing my lower lip – real fucking’ gratifying lemme tell you – he’d tucked the picture of his mom into the edge of the frame, a look of slight apprehension in his eyes as he judged my reaction.

It was perfect, our women together.

“You know they’re gonna give you the mother of all shovel speeches?” I gestured to the photo

“Nah,” Steve grinned, getting to his feet. “They’re gonna love me.”

“That certain?”

“That certain.”

That damn smirk does something to me. Something I really wish I was in a position to do something about. But now I finally had my dream combination – bed and Steve – the overwhelming desire I had was to sleep.

Actually, fuck desire. It wasn’t even that I wanted to sleep, my body just wasn’t taking my wishes into consideration and was determined to override my want to stay awake and with Steve, and I was ten seconds from sleep.

Which was, because Steve is an asshole, when the fucker stood up and offered his hand.

“C’mon, shower. Now. I’m not having you stink up my ship.”

“Your ship?” I slurred, stumbling to my feet, only partially on purpose so I could fall against his chest.

“I stole it, it’s mine.”

“Oh God, I finally met the Space Pirates.”

“Huh?”

For reasons known only to a select few assholes at JPL, Valkyrie’s bathroom – such as it is – is a ways away from the bunks. Instead, maybe so the commute is short enough for Barton to maybe arrive at work on time, it’s the MedBay that sits at the end of the housing corridor.

En-suite is not in NASA’s vocabulary. It’s a real pain if you wake up dying for a piss. Here’s the
thing about zero/low gravity and your urinary tract; you tend not to know you need to piss right up until it’s a full alert ‘I gotta piss now, now, now’ situation. By which time, if you’re unlucky – or Clint, which is much the same thing – you’re already pissing your pants.

I keep telling ya, space travel ain’t glamourous. Y’all think we wear diapers sometimes even outside of launch events for fun and fashion?

So if you wake up, and you’re already dying to piss, having to traverse the whole damn ship just to get to the toilet isn’t fun.

You will never convince me that Wade Wilson was not entirely behind that stunt.

It does not endear engineers to astronauts, lemme tell you. Nat, for one, would like to behead whomever made the decision. The electrical short that was caused the last time a crewmember was caught short – naming no Sams – took her the better part of three days to fix and the better part of a month to stop bitching about.

On the way, we dropped off the picture, drive and a few of my clothes into Steve’s bunk – our bunk.

We can move the rest of my shit another time.

You know, as I’m writing this, I’m thinking I ain’t the only one that’s a little antsy about everything being a dream; Steve’s been keeping an eye – and a hand – on me at all times, even as he shut us into the bathroom. I ain’t complaining, just making an observation. Recording it, you know, for science. If I write it down, it’s science.

It was helpful for me though – I felt a little out of control, a little like I didn’t quite know what I wanted, or even how to get it, but at least being with Steve, I had what I knew I needed.

When I rocked forward for a kiss, Steve’s lips met my own without hesitation despite his complaints about Eau D’Mars, a little tentative, a little desperate and a lot reluctant to let the kiss end.

“Handsy guy.”

“Waited years to get my hands on you.”

“Whose fault is that, huh?” I nipped at his jaw, soothing it with a kiss. “I’da gone home with you that first night.”

“And slunk outta my room at dawn?”

“I’m not that kinda boy!” I protested. Sure, maybe at one time, I mighta been that sorta fella, but I ain’t anymore. Not since the idiot in front of me walked into that pub.

Steve had the audacity to raise his eyebrow at me as he unzipped my toiletries kit.

“In the years you’ve known me, you seen me go home with anyone?” I defended myself, puffing up a little. Which was a mistake ‘cos it hurt like all holy fuck. While I was wincing, Steve was fumbling with my kit, almost dropping my razor with how sharply he turned to me.

“Really,” He sounded utterly disbelieving. “Not in three years?”

“Shut the fuck up! You romance anyone besides your right hand since that night, Rogers?”

“Yeah,” he answered with a shrug, and my breath punched out of me.
Fuck.

Forget my ribs, *that* hurt worse. The thought of him with someone else, no matter how I’d had no right to be jealous seeing as how he wasn’t mine and you can’t lose what you don’t have, made my stomach roil and twist in a manner that made the reappearance of the Ensure seem pretty likely and I didn’t think it’d taste any better coming back up.

“Sometimes, I let my left hand drive.”

I take it back, the smirk does nothing for me. Nothing at all.

“You fucker!”

Bastard just threw me that million dollar smile of his that had most of America swooning before we left. Almost like he knows just what *that* does to me.

Told you he ain’t the Boy-Scout ya’ll think he is. Thank fucking God.

It makes the idea of showering with him even more fun.

Actually, ‘shower’ ain’t quite the right word for what we got up here. In the years since the ISS was the cutting edge of spacecraft, personal hygiene has become a lot easier to upkeep. Back then it pretty much consisted of no-rinse shampoo, a pouch of pre-mixed soapy water, and a towel.

Scrub a dub-dub.

Don’t even try to correct me that Skylab totally had a shower and ISS was a step backwards. Sure, the Skylab ‘shower’ seemed cool, but it was difficult to use and was like washing with a spritz bottle.

Real fucking effective, as you’d imagine.

I haven’t showered or cleaned up with more than a wet-wipe and my hastily cobbled together body wash in eighteen months. Spritzing water on myself and scrubbing with a towel wasn’t gonna do shit. Except maybe leave us with a few towels less after the team jettisoned them into space for being too repugnant to ever want to wash with ever again.

With *Valkyrie*'s artificial gravity the water is able to fall, rather than float about the place getting all up in the ship’s shit, so we can have something like a real shower. Not a lotta water, but more than trying to shower with a bottle of Windex. It’s all collected and filtered for the next shower so we ain’t wasting stuff.

Space travel sure is sexy, huh?

I’m pretty happy with the arrangement we *did* get. You shoulda seen the shit some of the teams came up with when *Valkyrie* was being planned; one guy proposed a shower like a human-sized car wash. I ain’t kidding – rollers of strips of fabrics that contained soap pellets that reacted with the water and span around, wiping the astronaut clean.

Looked more like a torture device than something for hygiene. Seriously, look it up, it should be in any number of books on the Ares Programme.

But even with the gravity we got on this part of the wheel, it still ain’t the same as Earth and with the wheel not back up to full rotation speed, we don’t have enough gravity to use the shower stall, even with the vacuum at the base of it.
So I guess it’s back to the space equivalent of a bed bath. Too damn bad Steve ain't in a nurse's outfit - he's got the legs for it. Chest too.

Stored in a container on the wall opposite the shower stall are large sheets of dry-soap towels, which you moisten and rub a dub dub when you need to get clean in these sorta situations. So you can imagine my surprise when Steve headed to the small stall.

“What about the gravity?” I asked as Steve started unpacking my kit and sticking the relevant items to the Velcro patches placed high on one wall of the stall. Hey, space is at a premium. And you don’t want stuff floating around in case the ship loses gravity when someone’s in the shower.

Which’d be fucking embarrassing.

Speaking of space, the shower stall isn’t exactly designed for two, so we’re gonna have to get all up close and personal.

What a shame.

“What about it?” Steve countered with a smirk as he tugged his shirt over his head. I’m not the only one that’s lost weight but God is he ever gorgeous. The broad span of Steve’s phenomenal shoulders and back are mesmerising. He hasn’t seen real sunlight in a long ass time so his skin is pale, the myriad of scars from a hard career silvery in the light, and watching every shift and twitch of his muscles as he moved around the small room was something I coulda done for hours. The long valley of his spine drew my eyes down to the delicate curve of the small of his back and where I could, thanks to the low-riding waistband of his pants, just see the sweet dimples on either side of his spine, just above the plump curve of his ass.

I wanted to spend roughly five hours swirling my tongue into those little hollows and up that spine, driving him crazy with want, teasing him ever lower, and lower, and lower…but that thought was derailed when Steve turned back to face me, and as impressive as his back are, his chest and abs are something else and all that perfection was in reach and I was finally allowed to touch.

I tsked softly to cover that I’d been caught blatantly staring and then remembered, to my delight, that I didn’t have to hide that anymore. I could stare all I wanted. I was invited to stare all I wanted.

So y’all can’t blame me for reaching out to press my hand against the swell of one pectoral, loving the feel of a nipple pebbling against my palm, and I didn’t miss the way Steve’s eyes darkened. Stevie Wonder wouldn’t have missed it.

Still, I’m a little shit so…

“You stage one little mutiny and suddenly you start throwing out all the rules?

“Something like that.”

“I always did love me a bad boy. Get you on your Harley, leather jacket. Hmmm, only your leather jacket…could get real messy.” I trailed my hand down over the ridges of his abs. “But you ain’t gonna let me get us all messy, are you?”

“Bucky…”

“Can’t blame a fella for trying.” My hand got intercepted before I could reach his waistband, let alone show him a magic act I’d spent my teens perfecting. Making underwear disappear, if you gotta know. Shut up about Prom, I got way better at it after that. I’m just sayin’, college Bucky did alright for himself.
“So, if I can’t get handsy, are we going to take this time to talk about how on a ship with plenty of food, you’ve lost so much weight?”

Steve scowled and stepped away, focused on arranging the towels on the wall, adjusting and re-adjusting how they were falling before fussing with the levels in the pouches of body wash and shampoo. But I could wait him out. Mars taught me patience.

“This coming from you?” He finally uttered.

“I had an excuse, sweetheart.”

“I had a reason.”

I swallowed hard. He sounded so broken, so vulnerable that I didn’t even think about it, just stepped over to where he stood, back to me, and wrapped my arms around his shoulders, nuzzling against his temple, kissing his hairline and cheek as far as I could.

“I… I couldn’t… You were down there, starving and alone and I didn’t deserve anything less.”

For all I could have punched him, stupid self-sacrificing idiot, instead my arms tightened. In the ring of my hold, Steve tipped his head to the side to look around at me, eyes dark and wounded, expression guarded.

“When Stark finally told us, when I learned what I’d done, I threw up what felt like most of my internal organs and after that, I didn’t – I either didn’t feel hungry or just nauseated.”

His chest hitched with a shaky breath and his voice trembled. I pressed a kiss to the corner of his mouth, lingering and firm. Then another. And another.

“Sweetheart. You gotta stop blaming yourself. I’m here. We’re together. It’s over.”

“I searched. I looked for you but still I left you there.” The pain on Steve’s face constricted my chest with more agony than any broken ribs. Curving my hands around his biceps I tugged until he got the idea and, because I wouldn’t relax my hold, turned clumsily in my embrace. I drew him close, urging his head to rest on my shoulder, his face pressed into my apparently disgustingly-fragrant throat, hands stroking up and down that beautiful back.

It was quiet in the small room as I held him, rocking softly from side to side in a bastardisation of a slow dance.

“It was my fault.”

I hissed between teeth I wasn’t aware I’d clenched. My stomach roiled at the absolute, soul-deep **belief** in his tone.

“**Don’t.** Don’t ever say that to me again,” I ordered. “We can’t go back to Sol 6, can’t undo all this shit, and if I gotta go the rest of my life figuring out a way to get you to believe me, then I guess that’s just what I gotta do. We gotta move past this, sweetheart. You gotta let it go.”

I reached my fingers up to cover his lips. I try to shift my head to look at him, but he wouldn’t meet my gaze, burying his face further into the crook of my neck instead. I knew the ruddy pink of his cheeks was from shame. I could feel the hot burn of tears behind my eyes and pressed my lips to his forehead, crushing my lips against his warm skin as though I could press the truth into his brain, that I could brand it into his soul.
“No more, Sweetheart. No more of that,” I whispered softly into his skin, smudging kisses along his hairline to whisper into his ear. “No more blaming yourself.”

“I don’t deserve your forgiveness.”

A bubble of anger bloomed in my belly, overwhelming the tender compassion.

“And I don’t get a say in that?” I can hear the edge in my voice, the dare for Steve to say the wrong thing. “Sweetheart, I ain’t been overburdened with an abundance of choice the last year, but I do get to decide how I fucking feel, and guess what? Forgiveness ain’t your choice. You don’t determine if you do or don’t ‘deserve it’. And once it’s given, you can’t give it back, so fuck you and your ‘don’t deserve’ it shtick.”

“But-”

“You wanna Rochambeau for the privilege of determining if you get to forgive yourself for something that ain’t even your fucking fault in the first place? Want Lady Luck to determine my goddamn feelings?” I wanted to shake him, but I wanted to hold him more. “It wasn’t your fault.”

“But I still did it. I still left you there.”

Maybe shaking him was the way to go.

But it was when I pulled back a little to really let rip on the stubborn idiot, that it really struck me how changed he was. He was still strong, muscular and built in a way most men would be envious of, but he’d dropped weight, his face leaner, and it was more than just the physical. His exhaustion seemingly soul deep. He appeared so much older, so much more resigned to pain. He looked like a broken man holding himself together with all that he had left, and what was left was faltering. Strange as it sounds, it made it all so real – in my dreams Steve was never in anything less than perfect health, eyes bright and smile wide.

Not like this.

And so I shut my mouth, dropped my head back to his shoulder, and tightened my grip as I held him hard enough that I’m pretty sure caused his ribs to creak let alone mine, but I didn’t care. The bravest, strongest man I knew was standing before me bowed and so very near broken and it rocked me down to my soul.

I replayed his whispered words, shrugging aside my anger and despair, and truly listened to the pain and yearning in his tone. Steve was so very desperate to be forgiven but he didn’t know how to be, didn’t know how to accept my words and he really didn’t know how to forgive himself.

I don’t know how he’s feeling ‘cos I can barely figure out my own shit about it, but I do know one thing – it wasn’t his fault, and I ain’t lettin’ his self-sacrificing ass marinade in guilt and loathing forever.

That shit just ain’t good for you.

I’m all over the place myself, emotions I can’t put a name to coursing through me, some bittersweet and twisted, others jubilant and uplifting. I wanna weep for all the time that was lost. I wanna weep out all the pain and hurt and fear that weigh us both down. I wanna run naked through the halls of Valkyrie that I loved an idiot called Steve and even more amazingly, he loved me back.

In the end, I did none of those things, tempting though they were. Rome wasn’t built in a day, and undoing all the shit we’d both gone through wasn’t gonna be instantaneous either. But we could
heal together now.

See, I told ya - Mars taught me patience.

I brought a trembling hand up to Steve’s hair, so much longer than I’d ever seen it, to stroke my fingers through the strands and along his neck, over and over, murmuring utter nonsense and contentment into his ear.

I lost all track of time, happy, safe, and secure in his arms until a memory came to mind, a memory of a cool night and high moon, of two men sitting alone on a rock while their teammates slumbered in tents behind them.

“You remember when we all went to the Grand Canyon and camped out in the bottom, and I got all caught up in how my Pop and I had always planned to go but then he got sick, and shit?”

Against my shoulder, Steve merely nodded.

“You told me somethin’ that night. You were sitting on a rock, probably freezing your fine ass off, and you were sketching and you didn’t even look up when I sat down next to ya, just let me talk and when I was done, you remember what you told me?”

Another nod, that morphed into him nosing against my throat.

“Well?”

This time Steve’s head rocked side to side in a ‘no’ but I wasn’t gonna be swayed.

“Steve.”

“How’d you even remember that?” It was muffled against my shirt but understandable.

“I remember everything you tell me. Everything important.”

His huff of amusement was warm and moist through my shirt. He had to be suffocating, nose deep in clothes I’d been wearing for 18 months but for all his earlier complaints, Steve didn’t seem all that concerned with moving.

“C’mon, tell me what you said.”

Reluctantly, painfully slowly, Steve lifted his head from my throat, eyes red-rimmed and a little puffy though his cheeks were dry.

“I told you that it was tempting to live in the past, that it was familiar and even comforting, but that it was also where fossils come from.”

I nodded. One corner of his mouth ticked up a little in a hint of a smile, though it didn’t reach his eyes.

“Which I wouldn’t have done if I knew you were gonna use it against me.”

“What are friends for? Other than to remind you not to wallow. You gotta move on. With me. Clean slate and all that shit.”

He glared at me in a decidedly un-friendly manner, but he couldn’t keep it up, that little tick curving the edge of his mouth upwards again. Which was better than the self-recrimination and doubts.
“You still need to shower,” he accused, feet shifting restlessly now the emotional edge had been taken off, though he didn’t remove himself from my hold, nor shrug my hand from his head where my fingers had stilled, but twined in the strands.

I ain’t stupid, I know it’s something we’re gonna revisit, probably on the daily, somethin’ we’re gonna have to work on. Fuck me, we might even need to involve Garner, or some other headshrinker that I’m less pissy about. But I’m happy to let him change the subject. He and I both know I ain’t letting him off the hook just ‘cos I’m letting it drop. I’m a stubborn fucker, and he knows it.

But I’m also a dirty one and not in the way that’s fun.

So Option B was way better.

Steve, without stepping back and thus making his life more difficult because that’s how he rolls, was divesting me of my clothes. His hands were trembling slightly still, as he pulled my shirt from my pants, up under my pits and then grunted at me until I released him to lift my arms, Steve’s touch was so unbearably gentle as he eased my scummy shirt over my head. Murmuring apologies for my hiss of pain, his nose crinkled as he helped me lower my arms and he got a good waft of pure Malodourous Mars, available in all good retailers now for the low, low price of several billion dollars.

Steve hissed as he dropped my shirt to the floor and helped me lower my arms.

“Jesus, Buck.”

Lemme tell ya – his appreciation made the pain worth it and distracted me from feeling like I was 90 and dodderly.

Except…

From the way he was staring at my chest, appreciation wasn’t the right word. Disbelieving would be closer. Horrified would be more on the money. So of course I looked down too.

Sure, when Barton had been all ‘turn here, bend over, cough’ there’d been some bruises starting to bloom, as well as a lot of petechiae in my hands, but in the time since then it’s really had time to develop.

I’m a walking Monet.

As of now, from neck to…well, let’s just go with knees, everything is purpling up. My chest is swollen from the broken ribs, and darkening up all pretty.

I couldn’t help it, I checked out my ass in the mirror.

It wasn’t vanity. It was curiosity.

Not since Sara Quinn have I ever fumbled so much with the fastening on my pants, but I managed, the fabric hitting the floor with a soft whomp, underwear following seconds later.

It’s gonna sound stupid, but I hadn’t seen myself naked in a while, not since my baths back in New Brooklyn. Why the fuck would I want to? I’d looked like the Grim Reaper back then, so how much worse could it be?

Yeah.
That much worse.

As expected, I got a wicked case of geasles. Little punctate bruises that are the result of overwhelmed capillaries that rupture as a result of serious G-force. I was lying reclined on the acceleration seat so my back, and ass, are deep red and speckled purple. Our suits allow us to withstand greater amounts of g-force than we could alone, but I just pulled a Hail Mary and my skin is left cashing the checks.

Which means I look like I got a bad case of the measles, hence the name.

My feet and hands are much the same, but while my feet are still a pretty vibrant red, my hands are, in comparison, still pretty fucking pale beneath the pinpricks of the geasles, a lingering effect of the tissue ischemia that was also responsible for my blurry vision.

Sexy, it ain’t.

Anti-G straining manoeuvres don’t really work out so great if you’re unconscious. Or at all in 12+G conditions. Which means that not only am I filthy, greasy, half-starved, hidden behind a beard, and my left arm scarred up, I’m also pale wherever I’m not covered in bruises and one of my best features looks like I fell asleep ass up in the mid-day sun. In Greece.

No wonder Steve can resist my charms.

But hey, if he loves me like this, right?

I gave him a smile. “You don’t think I make this look good?” I gestured to the marks across my shoulders from where my flesh had been scored by the harness of my suit, and waggled my ass. “I think I look good.”

“You look something alright.” He turned away, but I caught how his eyes slid to my ass as he did, and left him to rummage in my kit as I examined my ribs up close.

Don’t take this the wrong way, but,” Steve spun back around with a toothbrush, already loaded, "Mars breath is real and it's potent."

“Just like me.”

“Did you really...?” The paste threatened to fall off the brush as he laughed, which had a real distracting effect on his abs. “Looking like that, you-”

“Don’t act like you don’t like my mouth.”

“Hmmm, I do. After it’s been brushed, I’ll like it even more. Be more inclined to get all up close and personal with it again.”

“Hey! I didn’t exactly have an endless supply of toothpaste!”

The bastard just rolled his eyes, and lunged, stuffing the brush into my mouth.

“You brush, or my mouth isn’t coming anywhere near you. And I know you want it.”

“Fu-ng-igt-id,” I mumbled around the toothbrush, vigorously putting it to work.

“What?”

I spat, dismayed by how the white foam was heavily tinged red, my gums stinging and teeth aching. “Fucking right I do,” I enunciated before reloading the brush and really going to town.
I might protest, but the man’s got a point. Even I can tell I ain’t exactly minty fresh, Clint’s mouthwash notwithstanding. I know what you’re thinking – I coulda brushed in anticipation of my big day, and getting to land a smacker on Steve. Well, that kinda assumes I didn’t run outta the stuff two weeks ago. Even rationing the shit outta it, six month’s worth of toothpaste wasn’t ever gonna last eighteen months. I did the best I could with warmed water and an increasingly worn out brush.

More effective than you’d imagine, apparently, seeing as how while my mouth is sore, I wasn’t overwhelmed with the desire to wrench a tooth out with pliers like I was that time at college when I needed a root canal and couldn’t get an appointment for a week and had to ask my roommate to hide my kit from me in case I got tempted to go Sweeney Todd on myself to end my suffering.

Thank God I didn’t crack a tooth when I was blowing shit up – I don’t think I’d trust Barton with a dental drill. Fun fact – dental surgery in space is so much worse than dental surgery on Earth. Back on the ISS they’d rather send an astronaut back to Earth than attempt anything unless they had no fucking choice. Without gravity, the very act of breathing while someone was digging around in your mouth could pull anything lose in your mouth back into the lungs, not to mention your Crew Medical Officer isn’t a dentist, just some poor schumck with the barest training, so if they fuck up, they have to phone home and wait for an answer. All while they’ve just drilled a fucking great hole in your tooth.

I’ll pass, but thanks for the offer.

After I rinsed, and turned back to Steve, the fucker just dropped a reel of digestible floss into my hand and raised one eyebrow in an order.

“Seriously?”

“Oral health is important.”

“Oral something is important, more like,” I muttered darkly as I ripped off a length of floss and went to town, eschewing swallowing the stuff, dumping it in the trash and making a show of dragging my tongue along my teeth.

“Wanna take it for a test drive?” I asked, waggling my eyebrows.

In response, Steve rewarded me with the other half of the striptease, pushing the waistband of his shorts over his hips to reveal the dark nest of hair at his groin. He let them slide oh-so-slowly down the long muscled lengths of his thighs and damn did my fingers itch to follow their journey. To trace the defined quads and sweetly delicate looking knees, over the sharp lengths of his shins.

God fucking damn I got lucky; even skinnier, even having lost condition in space, Steve is walking power, masculine and strong. I ain’t even gotten to his cock yet.

I’ve seen it before. In the years of training and locker rooms and sharing hotel rooms when away from base, I got a little more than passingly acquainted with the naked bodies of all my fellow AsCans. Lemme tell ya, you’d think Thor was the exhibitionist, but it’s Clint you have to watch out for. Not because he’s not body shy – he really isn’t – but because he sleeps naked and until he’s had about three jugs of coffee in the mornings his brain doesn’t work and he forgets that he should put clothes on before using a communal kitchen.

Or leaving the hotel.

But I digress.

Steve’s not hard, unsurprising given the visual and olfactory feast that I provide, but he ain’t exactly
soft either, which is more gratifying to my ego than being the first person to colonize Mars.

Okay, maybe as gratifying.

Who am I kidding, Steve is naked. With me. On purpose. It’s much more gratifying.

_Hell, yeah._

I swallowed, wanting to say something, say anything, but all higher brain function not knocked out of me by Mars had left the building the moment his long fingers had slid into his waistband.

I was only able to take a half-step towards Steve before he was on me, pressing me into that gorgeous chest as gentle hands came to rest on my lower back. His mouth was hungry and hot and I’d have grinned into the kiss if my lips hadn’t been so deliciously occupied.

When he drew back he was lucky I’m in less than great condition, because otherwise, fuck waiting, fuck getting to a bed, I’d have been begging him take fuck me next to the damn shower.

His pupils were blown, eyes dark, lids low and he was rocking some serious beard burn as he slicked that talented tongue over swollen lips.

I did that. Fuck me.

Really. _Fuck me._ Right here. Right now.

I was about to suggest it, real subtle like by getting a palmful of what I could feel pressing into my hip, order him to break me apart and put me back together again, over and over and _over_ again, when Steve cleared his throat, wiped his mouth and stepped backwards into the stall, holding his hand out to me.

I was right – it was a tight squeeze. Pre-Mars it’d have irritated the shit outta me but today, I’m all about the up close and personal.

And I had a feeling that wet and soapy Steve was gonna be a favourite version of Steve.

Even with the shower, we don’t exactly have a tonne of water to play with, and without the gravity-assisted water recovery, it was gonna kinda hang around in there with us, so Steve only ran the water for long enough to soak my hair and get me good and wet, using one hand to sluice the water over my skin. The stall still managed to fill with steam in seconds, Steve having adjusted the temperature hot as we could both stand it, our own little lazy, hazy cocoon.

_Fucking luxury._

I’ve spent eighteen months fighting for everything Steve just managed in two seconds with the touch of a button. All he had to do was press on a tablet and clean, hot, _running_ water came a-flowing. No Hydrazine, no explosions, no box of cancer taking two hours to heat my bath.

Just a fucking button.

That sorta head fuck is gonna take some time to get used to. I don’t gotta struggle anymore, I don’t gotta risk my life for something to fucking drink. I just gotta turn on the tap. I can eat until I’m full – and I can’t describe how exciting _that_ is gonna be for me. In the event of sudden decompression, my bunk will automatically seal and I’ll have time to get my suit on. No freezing to death on the surface of an asshole planet.
A fella could get used to that shit. Once he gets over how fucking easy his life is gonna be now he’s back on board. And once he stops referring to himself in the third person.

Know what else this fella could get used to? Soap. Normally, I’m a shampoo first kinda guy, washing top to bottom, but the moment Steve held the spout of the pouch of suds against my chest and squeezed to send warm, sweet-scented liquid cascading over my skin, I bit back any comment about washing my hair. Besides, if it was gonna encourage Steve to get his mouth on me again quicker by being all squeaky clean, I was a convert to the soap first initiative.

Did soap always smell this good or is Natasha’s shit just secretly better than ours? It’d explain her goddamn perfect complexion. Steve’s hands gliding over my skin, smoothing over my chest and arms, spreading the soap with this cute serious expression on his face and a little wrinkle between his brows, was heaven. Steve’s gentle hands followed the soap bubbles as they ran down my chest, callused fingers tracing the edges of the worst of the bruising, skimming over my ribs almost light enough to tickle.

He was learning me, in a way we’d always denied ourselves for so long, because we’re fucking idiots. But don’t think I wasn’t getting in on that act. As Steve spread the soap over my skin, I ran my hands over his chest, up over his shoulders, cupping the nape of his neck to draw him into kisses, and basically making a nuisance of myself as he worked.

If it meant the shower took longer, I was just fine with that.

He seemed to be too, seein’ as how he let me.

Maybe it seems strange, how we weren’t talking all that much, seeing how I’d spent over a year wanting nothing more than to talk to him again, but we never did need that many words, and right now, none were necessary.

Besides, ain’t like 55% of communication body language? ‘Cos his is talking to me, loud and clear. His touch and the way he’d almost grab for me before softening his grip almost immediately, spoke of his grief, his desperation to get me back, how he was never gonna let me go again. His body was asking me to press my chest against his, to hold him, to lean into him, get lost in his warmth and the feel of his hands. To remind him with every passing second that this is real. That we’re together.

In return, I was letting him know how it’d felt to be without him for so long, to find him and the crew gone, to be so alone, and my utter joy at being home, at being safe in his arms.

It wasn’t so much a shower, as it was a confessional as we clung to each other, trading touches and kisses. Everything we don’t really got words for, our touch does.

But you ever tried to get clean, really clean just by using your hands to spread soap around? It’s sorta pointless.

Steve’s not just beauty and bravery, you know. He’s brains too. From God knows where, he produced a mesh-puff thing, turned the shower back on, and saturated the puff with soap.

“Natasha know you’re raiding her shit?”

“Sam actually. Don’t worry, he’s got a bunch of ‘em, all sealed up.”

“I always suspected he had a rigorous skincare regime.”

“The man with thirty hair products on a shelf back home probably shouldn’t throw stones.”
Whomever invented exfoliation is going on the Kiss List. Has it always felt this good? I gotta apologise to my sister for those jars of sugar scrub shit that always knocked over every goddamn time I tried to shower. This stuff is the shit. I am gonna have the smoothest skin and be the prettiest boy on board.

Steve awkwardly bent down to slick his soap filled hands down my legs, and my heart clenched with an unbearable fondness for the man kneeling at my feet. I ran my fingers through his damp hair, watching droplets cling to the strands, fighting to break free and float away. Steve followed his hands with the puff, scrubbing gently, oblivious to my adoration. He was so careful, so gentle with me as he even washed between my toes, the apples of his cheeks rounding out as he laughed at me pitiful attempts to free my foot from his disinfection dictatorship.

Finally, releasing my feet from his tyranny, Steve’s hands made their less-than-professional way back up my calves, to curl his fingers around the back of my knees, fingertips stroking the soft skin he found there, thumbs sweeping in tight circles over my kneecaps, and if I coulda done something about it, I’d have wrestled him outta that shower cubicle in a heartbeat.

Maybe, maybe, Clint had a point about the no sex thing.

I had Steve inches from my dick, and while heat pooled lazily in my gut at the sight of him looking up at me, all spiked eyelashes and heat flushed skin, those full lips quirked in a grin, my dick could barely give reciprocate with little more than a twitch.

The spirit was willing – so fucking willing, believe me – but the flesh was apparently exhausted, bruised, drugged and a little starved.

But you ever known me to give up?

I could feel my mouth stretching wide into what was probably the biggest, dopiest, smuggest smile ever, but damn, as he looked up at me, water droplets clinging to him in a way that’d make me jealous if I were just a smidge more brain-rattled, those broad shoulders taking up most of the cubicle, I knew that even if I couldn’t exactly participate with more than an enthusiastic hand or two, it was a really enthusiastic hand, and I was gonna get ‘em all over Steve.

Fuck getting clean. I really wanna get dirty.

Moaning like a porn star wasn’t gonna make him less suspicious, but it felt amazing. What was a little less amazing was him taking about five minutes per pit to declare my underarms less offensive, which, rude. Was my skin not already pink and blotchy enough? Did he really have to exfoliate the living shit out of it there, too?

Actually, from the good old whiff of what could only be described as rotting gym clothes that we both got when I lifted my arms, yes, yes he fucking did and if he hadn’t, I would have.

But it still played right into my hands – nothing as adept at killing the mood like a little overwhelming body odor. Which was why, when Steve went to kill the water and I blocked him, he wasn’t remotely suspicious.
Trusting idiot.

“You don’t get all the fun.” I held my hand out for the soap pouch, mildly offended at how little was left. I hoped Houston had sent more in the supply probe because Steve had just used about a month’s worth of soap on my less-than-fragrant ass.

Steve arched into my hands as I took over the washing, my hands smoothing over firm muscles and around his hips. The whole time, he never took his eyes off me, like he was scared I’d disappear if he so much as blinked. Never looked away, that is, until, with zero thought of cleansing, I grabbed two handfuls of that perfect, fucking gorgeous ass.

Almost as gorgeous as the moan that Steve couldn’t hold back, the hitch of his hips and the way he bit his lip. He visibly shivered as I trailed one hand up over the swell of one buttock, around his hip and ran my fingers along the soft skin of his groin, practically able to feel his pulse thunder towards his cock, could feel it jump against the inside of my wrist, the touch a brand.

“Like that?”

It wouldn’t take anything, just a slide of my hand an inch and I could wrap my fingers around his cock, feel it heavy and thick in my grasp. His skin was millimetres from my mouth and I could close that distance and curl my tongue along his skin, learn the taste of him, suck a rosy mark onto his neck as I slowly jerked him off.

“Bucky.” If I’d thought he sounded like sex before, it’s nothin’ on now. His voice is gruff, the last syllable of my name bitten off on a moan. As I dropped my head to bite kisses into his neck over the pounding pulse between the notches of his collarbones, he stood straighter, those broad shoulders thrown back, pushing his chest forward and into mine, though I barely registered the pain.

Sexual healing, indeed.

As though anticipating my intent or perhaps acting on instinct, Steve spread his legs as wide as he could, cock bobbing against my wrist as he moved, right there for me to close my hand around. Letting my gaze drop, I watched as Steve hardened further, his cock rising towards his belly, and I wanted it, him, so much. Wanted to lose myself in him. In us. Steam and droplets created a cloud around us. Heat all around us. From the shower. From Steve. From me.

It could only get hotter.

Which was, of course, when Steve grabbed my wrists and lightly moved my questing hands away from anything fun, firmly replacing them onto his hips, fingers splaying over mine as he pressed them against the swell of bone, holding me still.

I flexed my hands as much as I could in his grip, my nails digging into his skin. Which elicited an extremely promising shudder that I would have explored further if he hadn’t pressed his hands even more tightly against mine.

“Why?” I whined,

Hey, I ain’t proud.

“Buck…”

“Why not?”

“Not like this. Not here.”
“Why not?” I looked down at the space between us, at his cock pressing against my hip. The tip of his cock was swollen and flared, begging for my hand. “I know you want to.”

“I do. But not like this. You need rest. You need food. I need you to have these things. You’re exhausted and wrecked. We don’t have to rush this, or do it all at once. We’ve got time now, baby. We got time.”

“I ain’t sayin’ we gotta do everything right now,” I grumbled, “but some of it would be nice.”

“We’re naked in a shower together, and we’ll be sleeping together every night from now on,” Steve replied, “that’s a whole lot of nice.”

“I’m fine for this. Feeling good, feeling great. Always been a quick healer.” I grabbed one of his hands and pressed it against my skin. “Touch and see.”

I knew from the look of determination in his eyes and the set of his jaw, this wasn’t a fight I was going to win.

“You are not fine, Buck. Besides, can you honestly say you’ve got the energy for what I want to do with you?”

Fuck me against a wall. Please and thank you.

Who knew his voice could get that low and rough? Or so goddamn predatory? It’s not fair, especially as he wasn’t letting me do a goddamn thing and I know he’s fucking right not to. I ain’t gonna admit it out loud, but my head is spinning from more than just getting my hands on his naked ass at last, and the weakness of my legs is probably more to my rock-bottom blood pressure and the heat, than it is because of all that wet skin pressed against me.

So, with a minimum of fuss and whining – you ain’t buying that huh? - I promised to keep my hands in only PG-13 territory but he didn’t seem to believe me, even after I wrapped my arms around his neck and vowed to not try to seduce the most gorgeous man I’d ever seen. Can’t blame him seein’ as how I wasn’t telling the whole truth. My hands might stay north of the border, but he hadn’t said a damn thing about stringing any NC-17 sentences together.

But hey, watching him was almost as good as touching. Just like having my hair washed was almost as good as sex.

Actually, it was kinda gross at first. Steve had filled the cup of his palm with shampoo and scrubbed it against my scalp, but it was trying to fight again a years worth of build-up and barely sudsed up at all. It took another two tries to even get my hair to sud up enough to work the shampoo through and Steve was meticulous, ensuring every inch of my scalp was scrubbed, and if he maybe indulged in giving me a suds-mohawk, well I ain’t telling.

So long as he doesn’t tell anyone about me getting all handsy with my aesthetician.

Attached to the wall on the Velcro patches were Natasha’s wide comb and conditioner, and Steve requisitioned them both.

“You gonna make me smell like flowers now?”

“So long as you stop smelling like-” he trailed off, filling his palm with conditioner and running it through my hair.

“You can say it.”
“Shit. You really smelt like shit.”

“100% natural, organic fertilizer. Mars farmers swear by it.”

“Are all botanists this disgusting?”

“All Martian ones are,” I confirmed as Steve shifted us around to direct me back under the water, getting down to the business of rinsing me down.

I took ruthless advantage of watching the muscles in his chest and arms work as he carefully combed out the snags and tangles in my hair.

Mighta instigated a few kisses under the water when he was done.

“Pep! Pepper!” Tony pushed his way through the crowd of exhausted and rapidly-tipsy NASA employees that had descended on the closest bar.

“Pepper!” Tony shouldered his way between Pepper and Phil, interrupting their conversation without a care. “Hey, Agent. Here, talk to Rhodey for a second.” Tony thrust his phone at Phil, uncaring of the drink the other Director already held, causing him to spill it.

“What, Tony?” Pepper asked as she pulled a Kleenex from her purse, dabbing at Phil’s sleeve as he greeted Rhodey.

“I need your phone.”

“There’s nothing wrong with your phone.”

“Agent’s using it.”

“Tony.”

“I need to call the Big Guy,” Tony wheedled, trying to reach for her purse.

“He’s probably asleep,” Pepper commented, checking her watch. It was only early evening but she knew better than anyone just how exhausted Bruce had become over the previous few months, and she suspected he’d found the first quiet corner he came across – home, hallway or otherwise - and crawled into it to sleep for the next few weeks.

“But he’s gotta strut! They did it! This is not the time for his selective napping!”

“Let him strut in the morning.”

Secretly, Pepper would be shocked if Bruce – or any member of his team – surfaced for a week unless there was some dire emergency.

“Pepper.”

“No.” Using her superior height, and her stilettos, Pepper held her phone out of reach when Tony made a grab for her purse.
“That’s not fair, using the Amazon thing against me. You know how much I like that.”

“No, Tony.”

“See, even the way you say that is sexy.”

“Uh, Tony? Rhodey says to just give up already because you aren’t going to win,” Coulson interjected as Pepper just stared at her partner.

“Then I get to give a speech. It’ll fill in the time before my surprise arrives.”

“Tony, no! What surprise?!”

“Too late! Byeeeee Rhodey,” he yelled to the phone as Pepper battled valiantly to stop Tony’s advance on the bar, Coulson trailing after, deep in conversation with Rhodey.

“He’s going to make a speech, isn’t he?” Rhodey asked, sounding like he was in a bar himself, a voice surprisingly like Clint’s booming near him.

“What do you think?” Phil asked, shaking his head at Tony’s less than sober vault onto the bar-top, smirking when the Director nearly skidded over the other side face first.

“When are you back?”

“Aw, you miss me, Coulson?”

“He’s just so…he always like this?”

“Only when he’s awake. Hey, call me back on video, yeah? I wanna see this. Oh, and record it on your phone.”

“What’s he doing?” Coulson hissed at Pepper as he hung up on Rhodey, fumbling with his own phone to follow through on Rhodey’s request.

“Don’t look at me. I don’t know what he’s up to about 80% of the time. I always just pray I know how to fix it after he’s done.”

Up on the bar, Tony swayed slightly, gripping onto the shelf above him for support, running the very real risk of bringing down dozens of glasses onto his head.

“Ooh, it’s good to be back on the stage!”

His proclamation was met with little interest.

“Hey! Listen up!” Tony ignored the best efforts of the barman who was desperately attempting to make him get down.

“Hey!”

The crowd quieted down and turned towards Tony, who manfully ignored the multitude of rolled eyes and muttered threats.

It was strange really, Tony thought as he smiled at his audience; were anyone who’d been living under a rock for nearly two years wander into the bar, the crowd would almost seem no different to the average Friday night crush of workers celebrating the end of the work week.
Except even the most work-hating of individuals facing a long weekend didn’t smile as wide as the people before him.

Of course a couple key people were missing. Rhodey should be indolently leaning against a wall, arms crossed as he smirked at whatever embarrassing thing Tony was going to do next, and Banner should be hunched over a glass of juice, arguing over bio-fuel with whoever would listen for more than a minute.

But from the red light that was down near Agent, the pair were both going to get a video of the good stuff. He threw a wink to the camera for good measure.

“So. Big day.”

A cheer went up from the crowd as people toasted each other, and Tony waved them down into silence.

“Now, I’m not one for big speeches, or showboating,” Tony was almost sure that the disbelieving snort was Pepper, but chose to ignore it. “But I’m gonna give it my best shot. So, drop your socks and grab your Crocs.” He pointed to someone towards the back of the room. “Especially you Killian.”

“Fuck you, Stark.”

“Not until you have more attractive footwear. Observe Pepper’s constantly flawless wardrobe. That is the sort of perfection that gets to fuck-”

Pepper cut him off. “Tony, I need you-”

“Aww, I need you too, honey. That’s what I’m trying to tell Killian! Though it’s not clear if he wants me or you. I’m kind of confused on that issue.”

“- To move on. I need you to move on, now.”

Tony made a show of bowing to her, almost tottering off the bar in the process.

“Some of you know my part in the Initiative, others have only heard the rumours. Now, I’m not comfortable, what with the myriad of public mistakes and unfortunate incidents in my past, with the moniker of superhero-”

“That’s good, ‘cos nobody is calling you one!” Mike Peterson yelled out from the back of the room, many of the crowd agreeing, which was, to Tony’s mind, grossly unfair.

“However, in my experience,” Tony carried on, flipping off the dark corner where Mike stood with Fitz-Simmons and Skye, “‘Stark saves the day’ has a pretty good ring to it, and it’s times like these that I realize how much of a superhero I can be-” A number of balled up napkins, a couple ice cubes, some chicken wings, and from Tony’s left a toothpick with three olives on it, all flew through the air aimed at his head.

He couldn’t duck them all.

Thankfully, a well-dressed gentleman was always prepared. He removed the pocket square from his jacket pocket with a flourish and made a show of wiping away the smeared BBQ sauce on his cheek.

“Now, I’m not saying that I’m single-handedly responsible for what happened today.”
“Damn right!” Erik Selvig’s words were followed by a cheer, many in the crowd raising their glasses in toasts to Jane Foster, the woman looking faintly bemused at being at the bar at all, her intern Darcy laughing by her side and not-so-subtly doctoring her boss’ drink further with something green from a hip flask she then secreted away in her cleavage.

Tony urged them all back into something close to silence, noting with surprise that Selvig still had his pants on which was never actually a given when the man hit the town.

“I’m not saying that from the ashes never has a Phoenix metaphor been better personified than in Bucky Barnes and in the public’s interest in space travel and the Ares programme-”

“Tony,” Pepper called out over the din of the crowd’s disdain, “if you say ‘I’ one more time, I’m gonna actually hurl something at your head.”

“You love me, Pep, you’d never-” A stirrer whizzed past his head.

“Would you hurry up with you not saying all that crap?” Kate yelled.

“Katie-Kate, you wound me.”

“Enough for you to shut up? I wanna go back to celebrating the fact I’m no longer straight up creeping on a guy!”

“For once,” Tony continued, ignoring her jab, “and nobody is more surprised than me, this isn’t about me.”

“Damn right it’s not,” someone heckled to great applause.

“And it isn’t even about you, even if certain people among you can claim at least twelve percent of the credit.” This was met with general booing. “It’s about the legacy we’re leaving behind. It’s about-”

“Bucky Barnes,” Phil bellowed.

“Yeah!” The crowd agreed.

“The Ares 3 crew!” Simmons added.

The crowd cheered.

“Jane Foster!” Darcy hollered to great applause, her friend blushing as her work was celebrated.

“Captain America finally getting laid!” That was Skye, and Tony would have bet much of his fortune that the flush to her cheek was entirely due to the blue drink in her hand and not from embarrassment.

“Fine, fine! Go ahead, rain on my parade,” Tony conceded with ill-grace. “One thing we can all agree on, is that we all need a day when there aren’t twenty crises to deal with, and with luck that’s what we’re all going to get. Although now the trouble-magnet is on Valkyrie, who knows how long we’ll get that rest for!”

“But for now, we should all get started on this crate of bubbly before it loses its fizz. We should eat, drink, get pissed, and toast that Captain America is finally gonna get some!”

The much beleaguered barman, followed by half a dozen smartly dressed flair bartenders each carrying their own load, hefted several Balthazar-sized bottles of Champagne onto the bar by Tony’s
feet, and as soon as the men turned away to fetch more, the bottles were snatched up, disappearing into the crush, the pops of their corks the only sign they’d ever been there.

“Hey, you swines! There are glasses!”

“Tony, for the love of God, would you get down?” Pepper entreated, reaching up to beckon her partner off the bar.

Ignoring her pleas, Tony turned to the crowd of people to the left of the bar, face lighting up as he recognised one of the men, pointing to him with glee.

“Drop my needle, Jarvis!” Jarvis just looked at Tony before glancing to Pepper who shrugged. He eyed up the jukebox next to him as he dug around in his pocket for some change.

“Hey, man, not cool! You can celebrate with yourself later,” Tony called out. Jarvis ignored him as he dropped a couple quarters into the slot and keyed in his selection.

“Something good, J-Man.”

As the opening strains of ‘Shoot To Thrill’ rang out, Tony stepped off the edge of the bar with a whoop.

“Hey, it’s Buck Rogers!” Clint yelled when we entered the Rec Room.

‘Cos he’s an asshole.

I'm trailing a step behind Steve as we come up to the table they’re all gathered around, my grip on his hand a little too tight, my palm a little too sweaty, my heart a lot too fast. To my shame, I’m suddenly feeling kinda glad that we didn’t get the Hollywood montage shit down in the airlock.

My crew is incredible, but they’re all larger than life people and all of ‘em in a room together…I was feeling a little twitchy is what I’m gettin’ at. Something about walking into the room was the emotional equivalent of going from soft flannel pyjamas, to strapping on leather and armour. What the fuck I thought I was protecting myself from, I couldn’t tell you. It was stupid, maybe, but right then four people, four of the people I love most in the universe, was an entirely overwhelming situation for me.

Not at all like that’s four times more people than I’ve interacted with in the last eighteen months or anything.

I should have known better though, ‘cos I guess Clint had had a word with the others, ‘cos they weren’t all jumping up to hug me or nothing. At least I assumed it's ‘cos they didn't wanna freak me out as opposed to them just not caring that my skinny ass was finally back.

If I were a lesser fella with insecurities, I might have been upset. I was all shower fresh and everything. Steve even helped me shave. In the fragrance department, I am totally hugworthy.

Griping aside, I love ‘em so much for not getting grabby; don't think I coulda taken a Bucky-Dogpile, and I don’t just mean my ribs. All of which is its own head-fuck. I’m a real tactile guy, always real physical with my friends and now, the idea of ‘em all get up close and personal…it ain’t a great one, and of course I feel like a complete shit because who doesn’t fucking hug their rescuers?
Yeah, I know I ain’t letting go of Steve for more than a second, but I’ve told you before – I’m a fucking complex guy.

Hope I get over it by the time we get home ‘cos I’m thinking Becca is gonna be alternating between hugging me and beating my brains in, and Ma ain’t gonna let me outta her sight, possibly ever again.

"What happened to public displays of affection making people uncomfortable?" Sam needled with a wave of greeting. Must have meant something to Steve because the big idiot actually blushed as Thor moved himself down the bench running along the closest side of the table to give us room to sit. Steve sat stuck between us, leaving one of my sides free, which uncoiled some of that tightness in my gut. What I thought I was gonna need the room to escape for, I dunno, but I liked having it.

Sitting opposite Sam as I was, I could see his smug smirk up close and personal and being the romantic hero I am, I jumped right on in to save Steve. Besides, fake it ‘til you make it, right?

"Updated buddy system, flyboy. Commander thinks I can't get into trouble if he's got a hold of me." I held up our joined hands and Sam made a throaty grunting noise.

Very attractive.

"Right...You guys missed dinner because you were amending the regs." I could hear the inverted commas. That tightness released a little more, replaced by a comforting warmth.

"You're just pissed that I got Steve, and Clint got Nat, but you've gotta hold hands with Odinson."

"I would be honoured to clasp hands with Major Wilson."

I couldn’t hold back my cackle at Sam’s expression when Thor held out one massive hand over the table, wiggling his fingers to encourage Sam to take it, which, to his credit, the pilot did, though he rolled his eyes when the Norwegian took the opportunity to drop a kiss onto the other man’s knuckles.

"Thor, buddy, your sense of humour has improved since I went Cast Away." The chemist just smiled, even as Sam pointedly scrubbed the back of his hand against Clint’s shirt, the Doctor laughing at his actions.

"I am relieved to have you returned to us," Thor held out his hand for a high-five and I figured he’d earned it. Thor had enthusiastically embraced the concept of the high-five back during training. It’s just a damn shame that nobody thought to tell him that the point of it isn’t to try and dislocate the other person’s shoulder.

I almost bit through my tongue trying not to scream as it jolted my ribs. Pretty sure I broke several small bones in Steve’s hand. I’m kinda glad dinner’s gonna be short – no fucking way in hell could I make it through more than an hour or so tonight, even with these guys.

"Missed you too, pal," I wheezed. "Y’know, I kinda made a list of things and people I owed kisses to when I got back." Steve shot me suspicious look. "And your crazy wife is on it, but uh, I kinda don’t want you to kill me, and I think she’d hit me with her car if I tried kissing her, so can you give her a smooch for me, yeah? As a thank you for being so smart and doing whatever she did to get you guys her plan?"

"It will be my pleasure." Thor’s smile lit up his face.

"I'll bet," Clint whooped, holding up his own hand for Thor to high-five. I noted his own wince with a degree of satisfaction that my ma would have been ashamed of but I wasn’t remotely.
My complete lack of sex life is his fault, he deserves a little pain.

"I'm not on that list, am I?" Sam asked me, trepidation obvious.

"Right smack at the top, buddy." I couldn’t resist waggling my eyebrows, making kissy noises at him.

“Steve wasn’t the top of your list?” Nat asked, the little shit-stirrer. Where our hands rested on his thigh, Steve squeezed my fingers as his chest shook against my arm. Fucker was laughing.

Two could play at that game.

“Oh, Steve has his own list. It’s real detailed.” I turned to him with a smile that hurt my cheeks. “You wanna tell ‘em all about items 1 through 5 or should I?”

“I wanna hear about item three!” Clint piped up.

“I don’t!” Sam was adamant.

“Why only item 3?” Thor asked, curious.

“Science, bro, science.”

Sam snorted. “Science?"

“Items 1 and 2, they’re gonna be a little kinky, but you’re still trying not to frighten off your partner. Light bondage, public sex, that kinda thing. Items 4 and 5, they risk being too out-there for me and too person/couple specific. Item 3 is the perfect blend of kinky without being outside my comfort zone.”

“The thought you’ve put into that is-” Sam began.

“Terrifying?” Thor finished.

“I was going to say concerning, but close enough.”

“So, Martian, what’s item 3?”

“If I don’t get to know what happened in Budapest, you don’t get to hear their kinky sex list. It’s not like we’re not gonna be living it with them for the next six months.”

“Ooooh,” Clint turned to me, eyes alight. “Is it a threesome? Because I don’t think the bunks are big enough and if it is, Nat and I should get dibs on Sam, we got together first, if anyone gets Sam, it’s us.” He turned to his girlfriend for support, and actually got it, because Natasha is as much an asshole as the rest of us, she’s just so much more subtle about it.

Natasha nodded, smiling at Sam. “Hello, Sailor,” she crooned with a slow, seductive smile that could only be described as predatory.

She’d eat him alive.

“Should we return to the kissing list?” Thor asked, possibly to disguise how put out he was that there wasn’t currently a bidding war over his body. But we ain’t all stupid; Jane might be small, but she packs a punch, figuratively and literally. I’ve seen her slap Loki for some shit he pulled on his brother, and that’s like taking your life into your own hands. I expected to hear some venomous snake had been found in her lab, but the asshole just took it.
If Loki fears and respects you enough to not seek revenge, you’re to be held in awe. Thor is hers. We don’t touch.

“Yeah, Sam, let’s return to the kissing list.”

“Fuck off, Romanoff.”

“I stole a ship with you, and besides, I am not your entertainment and this isn’t inter-planetary spin the bottle,” Sam argued.

“I am not your entertainment and this isn’t inter-planetary spin the bottle,” Sam argued.

“Not yet, but it could be.”

“With tongue,” I chimed in. “Pucker up!”

Were I able to lean over the table, I’d have smacked a kiss right onto his surprised face, but the thought of moving makes me want to cry, so I could only beckon him closer, crooking my fingers at him, in the least sexy form of seduction possibly ever.

Sam’s flash of alarm was hysterical, panic flitting across his face before his smile turned sly.

"I'm delegating that...honour," it sounded insultingly like a question, "to our Commander."

"Wuss."

"When it comes to making out with you, I'll wuss out every damn time."

“I’m all minty-fresh,” I promised, running my tongue along my squeaky clean teeth. Thankfully not so minty that it was going to make it taste like spearmint was an extra topping on my pizza. All of you who’ve brushed your teeth and then eaten right after know what I’m talking about – it’s disgusting.

“You know, my man, your breath is way down my list of considerations.”

“Could change your life.”

“My life is just fine, thank you.”

Remember how I said that I’d missed these fuckers when I was finally able to speak to them? How it hit me like a fucking brick? That was nothing to right now. Hearing their chattering, watching ‘em shove and tug on each other, their easy smiles and easier laughter…

It was home. Like it was just any other of the hundreds of days we’ve spent together, not one of the most momentous days in human existence. Not the most important day of my existence. I felt myself relax a little, knew Steve felt it too, from the way he flashed me a smile.

I turned to the man at my side and gave him a smile of my own, a little less manic than before, if the way he lit up was any judge, though he still looked at me with concern. “Maybe he needs a little woo-ing? I gotta make him feel special?”

“Nah,” Steve answered. “He’s waiting on Doctor Carter.”

“Really?” I drawled, turning to the pilot, one eyebrow raised. Steve ain’t the only one who is the King of Smirking.
“Jealous?” Sam shot back, flipping me off.

“Fuck no! I got my own hot blond right here.” A hot blond that actually blushed, the adorable fucker.

“Speaking of hot blonds,” Clint interrupted, running his hand through his hair, spiking it up. “Am I on that list?”

“For providing me with all that quality entertainment? Hell yeah.” Sam snorted and muttered under his breath something about morons sticking together.

“Alrighty then.” He laughed. “Came all the way back to Mars, risked my perfect ass – I’m collecting my reward.”

Clint clambered up onto the table, crawled his way across – to the horror of Sam as his plate was ‘accidentally’ knocked into his lap, and the amusement of Thor and Natasha, who slapped his ass as he passed - to me, pursing his lips and blowing me kisses.

He left the decision to me, keeping his hands firmly on his thighs where he settled back on his heels before me. He might act it most of the time, but he ain’t actually stupid – he knew I was unsettled and kinda freaked out. Now he was done with his doctoring and ensuring I wasn’t about to drop dead, he was letting me choose who and how to touch.

He was also betting I’d not follow through.

I was happy to call his bluff.

In deference to my ribs and the very real possibility that I was gonna fall flat forward onto the table asleep, I moved slowly and laid a real loud smacker on him, much to Steve’s amusement, the big dork almost herniating something he laughed so hard, throwing his head back so far it looked painful.

"Oh, yeah, totally worth another year in space!” Clint sank backwards until he was nearly lying backwards across the table, legs still folded beneath him, running his fingers over his lips as though in a daze, fanning his face with his other hand. “Don’t know what you’re missing, Wilson.” Clint rocked up onto his feet in one fluid movement, tiptoeing back to his seat and dropping down off the table.

Acrobats are fucking show-offs, but I couldn’t resist throwing a wink and a thumbs up in Natasha’s direction, who merely returned it with a smug and satisfied smile, which was more information that I really needed, but good to know that space-sex is totally worth it.

"I’ll go right on in my blissful ignorance,” Sam announced with a smile, kicking out at Clint as he went past to get the pizza left for Steve and me out of the microwave.

It was only then that I noticed the two white pills by my water glass. I glanced up at Clint who was leaning against the counter, watching me like he was waiting for me to notice. He raised his right hand up in front of his face, palm towards him and moved it downwards, closing his fingers down to press against his thumb as he reached his chin.

The sign for sleep.

Even with the painkillers, sleep with broken ribs was going to be tough and I was gonna need every bit of help I could get. The shower had been necessary – and fun – but also exhausting and painful, and whatever Clint had snuck me during my exam was starting to wear off. My ribs burned with
every breath, and while I could feel myself sagging more and more against Steve, I knew I was too keyed up and in pain to sleep without some form of assistance. Signing my thanks, pressing my flat hand to my lips and then forward and down, I took the pills without hesitation. Steve hummed his approval, pressing a kiss to my cheekbone as a reward for following through on doctor’s orders without complaint for what might have been the first time ever.

Almost like I got a reputation for being a pain in the ass.

Rude.

Natasha was, as always, far more subtle in how she came to talk to me, waiting for Sam and Clint to get into a nonsense fight over nothing at the microwave, Clint loudly proclaiming himself the king of pizza prep and Sam disagreeing loudly, to slip silently out of her seat and coming to crouch by my side while Thor and Steve chatted about fuck knows what. Chemistry, probably. Nerds.

Like Clint, Nat kept her hands to herself.

“Hey you,” she whispered.

“Hey you.”

She glanced to where my hand rested in Steve’s on his thigh and smiled.

“You always had to do things the hard way but you get there in the end.”

I raised my eyebrows.

“Pot,” I pointed at her, “meet kettle.” We both looked over to where Clint was trying to get the now steaming pizza off the hot plate and onto two cool ones without burning his fingers. He wasn’t successful and Sam was no use whatsoever, leaning with his hip against the counter, arms crossed over his chest as he watched the King do his thing.

Thankfully Thor, because he was a kind-hearted soul, took pity on him, leaving his conversation with Steve to go help. I swear, the guy’s spent so long fucking with various chemicals and getting shit on his hands, that he has no feeling left in his fingers because he just grabbed that plate like it was nothing, while Clint looked on, mulishly, examining the reddening ends to his fingers even I could see and my vision was still blurry as shit.

“We do get there in the end, don’t we?” I looked back to her as she watched Clint.

Nat’s a gorgeous woman at the best of times – flat out classic beauty with her flawless skin, sparkling eyes and full lips, but right then, watching Clint, she fucking glowed.

Wonder if I look that happy – and dopey – when I look at Steve?

Looking back to me, Natasha presented her cheek, tapping it with one finger. “I stole a ship for you, I’m thinking that got me on the list.” Like her boyfriend, she left the decision up to me and I was more than happy to bestow a soft kiss. She smiled and nodded, her eyes a tiny bit glassy, the most openly emotional I’d ever seen her. I used my free hand to reach for hers and dropped another kiss on the back of her knuckles, because she might be able to kill with her pinky, but this gal deserves to be treated like the goddamn lady that she is.

I tapped my own cheek, and she gifted a kiss of her own.

“Thank you,” I whispered.
It wasn’t for the kiss.

God-damn gonna cry again, could feel it in how shaky my breath was gettin’ and how my eyes burned, and I ain’t doing that shit here so I nipped it in the bud, or again tonight because there is a fucking limit, even if it meant risking the possibility of getting punched by Natasha at a later date.

“I’m gonna hear that a lot, ain’t I?” I asked, no real heat to my words.

“What?”

“I stole a ship for you, do this. I stole a ship for you, do that.”

Her sly smile suggested that yes, on a goddamn fucking daily basis. I was oddly okay with that. But I couldn’t let her and the crew know that, could I? Had to at least put up a token resistance.

“Clint? I gotta ask, man. You said you’d always had a crush on my fine ass…that three-way offer still open or can we borrow Nat?” Maybe not my best shit-stirring, but I’m fucking exhausted, drugged to oblivion, and in pain.

I did my best.

Barton’s spluttering was totally worth it, Natasha’s chuckle suggesting I might get away with it, and the sound of Thor heartily patting the doctor on the back even better.

Hey, misery ain’t the only thing that loves company – pain does too; Clint was going to have some impressive bruises.

I missed these bastards. That knot in my stomach eased again.

The pizza - and fuck me it was good even if it was thin crust microwave shit that back on Earth I wouldn’t have looked at twice, but hey at least on Valkyrie unlike ISS it didn’t have to be coated in gelatin to prevent crumbs- -made my stomach roil and cramp up after months of little but potatoes, but if there’d been more of it, I’d have given it my best shot to eat it. As it was Steve tried to give up a slice of his, but I wouldn’t let him. I’d only vomit, and besides, I ain’t the only one that needs to put some weight back on.

Melted cheese is ambrosia, I ain’t even kidding. Melted cheese on everything from now until I die. Fuck my cholesterol, I’m gonna die happy.

All I needed was a beer and the night would be complete.

Honestly, I think if I’d had a beer, I’d have passed out at the table. The moment the food hit my stomach, it sucked what little remaining energy I had right out, my body putting what was left into digestion.

Or maybe it was the sleeping pills.

Steve ain’t no dummy though – he sensed it immediately, gently tugging me hand until I got the message to rest my head against his shoulder, chewing slowly as I let the chatter of my crew wash over me. This was what I’m dreamed of so often as I fell asleep alone to nothing more than the squeaks and pings of the Hab.
This was family. I was safe. I could relax. No more did I have to worry about the Hab decompressing in the middle of the night. No more did I have to watch the ever dwindling pile of potatoes and worry, instead I could open a cupboard and a freaking smorgasbord of food was available. No more did I have to struggle and fight alone.

I was home and I could rest now.

Fucking luxury. Fucking headfuck.

None of which stopped me from hearing when Sam got up, clearing the plate in front of me, making his way to the counter.

“Hey, Sam, while you’re up, wanna do me a solid?” I slit my eyes open to look hopefully up at him, to the espresso machine, and back again. He got it real quick.

“You think just because your ass got left on Mars for eighteen months, I’m gonna be making you coffee?”

“Uh, yeah?” I pouted for good measure, batting my eyelashes which was a mistake because fucking ow, but I am nothing if not a professional and powered through.

Sam just stared back, utterly unimpressed.

“I remember the deal being that you were going to be making me coffee every day.” He would remember that. I lifted my head from Steve’s shoulder which took way more effort than I am comfortable in admitting.

Was my head always this fucking heavy?

“Well, sure, but that’s in the mornings. It’s not morning.” He just snorted at me, so I pulled out the big guns.

Steve ain’t the only master of the puppy-dog eyes.

“Please?”

“Why should I?”

“Because I’ve been fighting for my life for over a year, all on my own, stuck with only Clint’s shitty TV and Natasha’s shittier music.” I smirked. “Of course that left me with your interesting entertainment choices. It had me wondering about the name Fal-”

I could tell the microsecond he caved, my frown turning upside down as I grinned at him. “Two sugars.”

“Yeah, I remember.”

“Ya know, you probably shouldn’t have a cof-” Clint started.

Oh, fuck no.

I wasn’t getting this close to real coffee and having Doctor Bossy-Barton ruining my moment.

“Fuck off, Doc. I ain’t had coffee in eighteen months. Eighteen months. I don’t give a shit if it’s late, or if I’ve been to hell and back, or it’s bad for me or anything else. I’m having a fucking cup of coffee and you can’t stop me.”
“Half a cup, Sam,” Clint called over his shoulder to the pilot.

“Full cup,” I countered, glowering at Clint.

“Y’all can stop with the orders. I’m not your barista,” Sam declared as he brought over my coffee.

Sam leant over my shoulder and plunked the cup down. It was full to the brim, because he might be an asshole, but he knows where it’s at. We all run on caffeine to a dangerous level.

“My liege.”

“Thanks, man. Appreciate it.”

Good God was coffee always this good? I mighta added to my list of injuries by burning the fuck outta my tongue, but it was so worth it the second that bitter brew hit my taste-buds. I’ve survived off coffee pretty much since Pa died, it kept me going through school and two jobs and keeping my girls together and I have *fucking missed it*.

My decision to French the coffee maker is 100% justified.

Sam slid into the seat next to mine while I was busy murmuring declarations of love into my coffee cup, crooning at the life-giving liquid.

“So,” he murmured, “how you doing with all this?”

I glanced to my side to where Steve was apparently deep in conversation with Nat who’d slid onto the bench next to him rather than return to her own seat, but I wasn’t the only one that was aware that about 70% of his attention was actually on me.

I was also pretty sure that life was too damn short to pretend I didn’t know what ‘this’ Sam was talking about.

Here’s a clue – he wasn’t asking about the pizza or his coffee making skills.

“Honestly?”

Sam nodded.

“It’s fucking weird.”

That got me a cocked eyebrow and a nod towards Barton.

“Seems accurate for any situation involving Clint.”

“True.”

Sam’s gaze turned sombre once more. “Really though Barnes. You okay?”

I couldn’t help my smile. “Yeah, man. I, uh,” I glanced at Steve out the corner of my eye.

Make that 85% focused on me.

Sam picked up on my discomfort; I don’t wanna talk about it with Sam ‘til I’ve really talked with Steve. He’s a real smart guy though. He nodded once, real slow.

We’d talk another time.
After a pause, I held out my hand.

“Thanks man, for…you know, comin’ to get me.”

A real warmth glowed in Sam’s eyes as he shook my hand, grip tight and warm and his smile was dazzling. I might, grudgingly, under torture, admit that Sam was an okay looking-dude, but when he smiled like that I could upgrade him to ‘acceptable’. Carter wasn’t gonna know what hit her when he got home.

But just ‘cos I’m being all nice to the guy and real grateful for the coffee, I can be as much of an asshole as Clint.

“Ya know, a kiss would be customary about now.” I focused in on his lips, licking my own all slow and deliberate, leaning my head toward him an inch. Just to see what he’d do.

Which was to put his hand up between us, blocking me from coming closer.

“I’m good with the handshake.”

I clutched my chest, miming my heartbreak.

What can I say? We’re guys. We don’t go in for the Hallmark weeping gratitude. This demonstration of manly care is how we have heart to hearts.

Sam put his water bottle on the table and jerked his chin towards Steve. “You moving in with Cap?”

“Yep.”

He sighed and glanced at his water, looking like a man desperate for it to transmutate into beer. He might be the best pilot in the solar system, but he ain’t no god.

“Damn. And here I am, all outta earplugs.”

“Hey, Sam?” I asked just as he started to stand back up, leaning forward slightly to extract his legs from the bench and just as I wanted he turned to me, still hunched over, inches away.

I made my move.

I didn’t bother trying to grab his face, it’d telegraph my intentions what with how slow I was moving. Instead, I just leant forward and planted one on him.

I figured I’d be nice and spare him the tongue.

“Gah!”

Laughing was so fucking painful and so fucking worth it.

Steve half carried me back to his, to our, bunk and carefully deposited me on the edge of the bed, looking worried as I swayed a bit before holding myself upright.
“I’ll be right back.” Before I could ask him where the fire was, he was gone, his socked feet making no sound on the floor so I had no clue where he was off to. I scowled at the door, feeling myself fall asleep but still fucked off that the first time the asshole gets me in his bed, he disappeared into thin air.

Before I could really wind up to being pissed off, my eyes slid shut and I could feel myself dropping off to sleep, waking with a start when Steve struggled through the door, grunting and huffing as he muscled a mattress through into his bunk, dropping it to the floor with triumph, like a caveman dropping a kill at the feet of his partner, looking to me for approval.

Which I kinda struggled with.

“Uhhhh. What?” I mumbled, looking between the mattress and Steve and back again.

Before Steve can suggest some stupid shit like his sleeping on the floor, I cut him off.

“You promised me.” It came out more like a whine than the accusation I intended, bu it got through to him, and for what I’m gonna go right ahead and guess was the first time in his life, Steve didn’t argue.

Alert the press.

“Noo, no,” he waved his hands around like some manic puppet. “I was gonna pull the other mattress down too…” He blushed again, stuffing his hands into his pockets.

The bunks on Valkyrie are like the shower – ain’t exactly built for two, especially two big guys, one of whom is a tiny bit delicate.

Repeat that, and I’m denying it.

I smiled at him, slow and sleepy. “You wanna build me a pillow fort.”

“No anymore,” he groused.

“Babe, not that I don’t appreciate the effort, but there ain’t the room. Steve frowned and looked at the mattress at my feet and then around the room as though looking at it for the first time. Our rooms ain’t large, and the mattress barely fit in the space between bunk and desk. There was no way another mattress was gonna fit on the floor to give us more space unless we relocated to the Rec Room and just the thought made me wanna die.

I might be back on Valkyrie but I’m still an overdramatic shit.

Besides, I was looking forward to getting all up close and personal with Steve.

Which happened about three seconds later when he stepped between my splayed thighs and curled around me. And just as I started to nuzzle into that perfect belly, the fucker hauled me to my feet.

“Ugh,” I muttered as I got my feet under me. The whole day had caught up with me in one big-ass go and I just wanted to sleep and him making me get off the bed was exactly the opposite of what I wanted.

Steve shuffled me backwards and rested me against the wall, and when I was more aware I might have some not-so-gentlemanly things to say about being hauled around like some sorta UPS package, but I merely grunted and watched in appreciation as he leaned over to muscle the extra mattress onto the bunk, and then snorted in amusement when the idiot remembered that sheets are a
thing, had to haul it back off, strip the bed and then repeat the actions.

Wanna know how thin our mattresses are? Even doubled up, Steve was able to make his bed perfectly, no short-sheeting here. Somewhere Phillips was getting off on those sharp corners and tight tucks.

At least someone was gonna be getting off.

Soon as he was done, Steve turned just quickly enough to stop me sliding down the wall and falling asleep in a ball in the corner, those delightful arms putting themselves to good use once more and wrapping around me, not objecting when I leaned more than a little of my weight against him.

I just needed one thing to make it perfect.

NASA really needed to embrace the fucking button-down, ‘cos getting my shirt off over my head again wasn’t a lot of fun. If I’m finally getting to sleep in Steve’s arms, I ain’t doing it in no scrub top bullshit borrowed from Clint.

I think the asshole might actually have jettisoned my Mars clothes. Fucker. I coulda auctioned that shit off when I got home. Made a fucking mint.

Watching Steve’s chest get revealed again as he stripped, one handed no less and I’d like to think he kept hold of me with one arm because he didn’t want to let go and not because he was literally the only thing holding me up, was lots of fun.

Don’t think I’m ever going to get tired of looking at him. Touching though, touching was better. We’ve only been together a few hours and already we slot into each other’s arms perfectly. I’m either romantic or a little stoned.

Maybe both. I keep tellin’ ya, I’m a complex guy.

One large hand slid up my spine, nails trailing against my skin to send goose-bumps skittering across my stomach, fingers burying into my hair, the other hand sliding around my waist.

“Are we dancing?” I asked, nosing into his hair, breathing in the soft scent of soap and Steve as I spread my hands across his warm back as he rocked us from side to side, slowly making our way to the bed.

“T ook us long enough, huh?”

I pressed a kiss below his ear. “You’re not stepping on my toes. I was promised toe-stompage.”

“Jerk.”

From out in the hall, I could just hear the soft steps of Natasha as she padded down towards her bunk and the sharp tap of her nails twice against our door in goodnight, soon followed by Thor, his extreme size and bulk evident in his slower, heavier footfalls. A few minutes later, Clint wandered past, arguing with Sam over some inconsequential shit, voices low, the pad of their feet irregular as they jostled each other down the hall.

The everyday sounds of family.

But there’s an even better sound going on just beneath my ear. The strong and sure heartbeat of the man I love. When you think about it, a heartbeat is everyone’s first lullaby. It’s been a good couple decades since I needed one, but right now, I’m real happy I got this one.
Steve tried to pull away, tried to shift us onto the bed instead of next to it, but as exhausted as I was, as much as I was seconds away from falling asleep standing up, the bed wasn’t what I wanted just then.

“Sto’,” I slurred, tightening my grip, resisting his efforts as best I could, hugging him as close as my limbs, no longer really listening to my brain, could manage.

Which was embarrassingly little but when you’re dead weight and your lover is scared of harming you, you’d be surprised what you can achieve.

“Snuggler.”

“Fuc’ off, Rogers.”

He gave up in his efforts, resting his head against my shoulder as I wedged my head into the crook of his neck, seeking out that lullaby.

This was good. This was enough.

This was home.

Chapter End Notes

Holy shit. On and off this fic has been something I've worked on for THREE years. It somehow morphed from an already large 180k to 470(ish)k. Thank you all for coming on this ride, and for your incredible support, and I hope you'll all join me for the next installments. (though they might be a while cos this girl needs a serious break!)

End Notes

So, first up - apologies for this taking as long as it did. I have a severe chronic condition that worsened over the last year and between the pain and treatments, sometimes writing just wasn't an option. It's not been a great time for rewriting what was already a very long fic. Second, thanks for all the support I've gotten since posting the original version to now, I've really appreciated it all.

Third - my hope, and I stress hope because my health and family will always come before writing, to keep to a schedule of a chapter a week. IF I somehow finish the rewrite sooner than expected I might speed up the posting schedule.

Oh, and when I describe Steve as "out" as an army man, that's a reference to him being out of the army not out of the closet, just in case that's not clear.

Over on tumblr I'm kcsplace, so come say hello there if you want.

Works inspired by this one

Cover for "The Man on the Wall" by CaseyStar by Lovesfic (me23)
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