



OUR FIRST STEPS

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Chapter 1

Welcome to the Cape

Trying to keep on her four hooves as the train wobbled left and right with ever increasing amplitude, Zvezda pondered two things. Firstly, why on Equestria would a weather control office be interested in such a common Earth pony like herself? And secondly, why did a long distance train not have chairs?

Inspecting her carriage further – For what else there was to do, after her magazine had long been read, and the countryside beyond the window had since vanished into naught but arid desert that stretched out in all directions? – she realized that the train was even more lacking in amenities than she had previously thought. Though the lack of such simple elements as a water fountain (or a door) had previously tipped her off that the voyage might be less than comfortable, upon a thorough investigation the carriage appeared not only spartan, but outright unfinished.

From her vantage point atop a wooden crate – the floor, a bare sheet of metal laid over the structural cage, had already grown hot enough to scorch her silver skin hours ago – she could see no less than five different joints that, instead of being properly welded, had been simply taped together. What made it worse, at least two of those were loadbearing. Those that had been welded were no better. From her ample experience of metalwork, Zvezda could see the typical tell-tale signs of rushed labour; The metal was warped from excessive heating, the filler material was unevenly spread, and the little bubbles running along its length revealed much about the many trapped air pockets inside. Some of these were so bad, they could even be considered works of art.

The other ponies on the train did not seem to mind much, though. Judging by the bored resigned looks on their faces, most of them had already made this journey several times. For some imperceptible reason, many of them were also wearing thick woollen hats, though the temperature in the carriage hovered steadily near boiling point. Some of them were even standing directly on the metal floor as they did so.

Thankful for the onboard air conditioning system – namely, the severe lack of doors – Zvezda desperately scanned her surroundings for another pony that seemed at least somewhat sane. Even discounting all the hat-wearers, the pickings were rather slim. There was a dark unicorn that had apparently renounced her hat for an even thicker leather coat instead. There was an earth pony that had, either willingly or unwillingly, been affixed to the ceiling with rope and left hanging there. And finally, there was an orange pegasus that, for reasons known only to her, had decided to board this train of the damned instead of simply flying to the destination. Considering the alternatives, she decided to try her luck with the pegasus.

Carefully making her way over the breadth of the carriage, making sure to neither touch any of the searing-hot metal components with any part of her body, or startle the cargo crates in any way (their markings were written in some coded alphabet, but the warning icons were obvious enough – black smoke and pony skulls), Zvezda managed to approach the orange pony, who seemed to be rocking back and forth with her eyes closed, constantly mumbling something to herself.

Wondering whether or not she had overestimated the pony's sanity, Zvezda coughed to garner her attention. Though the howling wind and squeaking wheels drowned out most sound, the pegasus nevertheless stopped rocking and immediately snapped to attention. Upon seeing her wild crazy eyes, Zvezda regretted interrupting her:

“I was promised a cape! An honest-to-Celestia cape! Seas, palm trees, beaches!” she screamed directly into Zvezda's face, almost hitting her with one of her legs as she gesticulated wildly to the lifeless wastes outside, “Does that look like palm trees? Does it? DOES IT?”

Somewhat taken aback by this outburst, Zvezda was nevertheless baffled: “Cape? What cape?”

“What cape? They said cape in the booklet! They even had a hoofing photo!” the pony screamed, proceeding to temporarily remove her face from Zvezda's as she fumbled through her saddlebags, eventually extracting a garish pamphlet. Remembering the quiet unassuming ad that had recruited her, Zvezda studied its many colourful exclamation marks with some interest:

“Want to push back records? Want to be at the forefront of weather control technology? Want to fly faster than the Wonderbolts? Soar higher than the stars? Well then, come to Cape Coltaverall!”

And indeed, there was a scene of a beautiful tropical forest, complete with smiling ponies flying all around. Off to the side, a few unicorns in lab coats were doing some sciencey things with blackboards. A few scattered testimonials of various ponies spouting meaningless marketing phrases sealed the deal.

“See? See?” the pegasus screamed, “If I ever see that recruiting stallion again, I swear I'll trample him! I mean, I graduated top of my class for *this*? No way! When I find whoever's responsible, I'll make sure to-,” she continued, proceeding to spend the next few minutes detailing exactly how she would enact her revenge.

Meanwhile, Zvezda studied the pamphlet in detail. Something about it seemed... off. It was hard to describe, but the feeling was definitely there. By the time the orange pegasus got to chainsaws, she finally noticed it; The final testimonial, the last sentence; The message was written in a playful rainbow font, but the dot above the 'i' in 'astounding' was jet black, and slightly odd in shape. Interrupting the detailed tirade, she showed the dot into the pegasus' face.

“There. I'd need more time to be sure, but that looks like a microdot.”

That stopped her. “Mi-microdot?” a puzzled expression appearing on her face.

“Probably contains a disclaimer. Or ten of them, judging by that scene outside.”

There was a second of silence. Silence, followed by a bloodcurdling scream:

“How did you spot that? How could *anyone* spot that?!”

“Have you never seen a recruiting poster? They all do that. Name's Zvezda, by the way.”

Mention of her name seemed to derail the poor thing's single-track thought process. “Zvezda? That's... Aha! Stalliongrad, right?”

Zvezda sighed. Every. Single. Time.

“You westerners- There's more than one city in the east, you know! Sankt-Luneburg, if you must...”

“Okay, okay, sorry! It's not like geography was my strong point. Sheesh,” the pegasus replied indignantly, before immediately switching to cheerful: “Anyway, I'm Cherry! Cherry Skies! And I like-”

An ear-piercing scream of sliding metal suddenly turned Zvezda's existence into a torrent of suffering. Not even jamming her head against the crate and covering her ears seemed to help, as the rusting brakes of the train continued their unending assault on the senses. Of course, whether it was preferable to Cherry's voice or not was still undecided by Zvezda.

After what seemed like an eternity, the cacophony subsided, and the train was suddenly standing still. Getting back on her hooves and taking a look around, Zvezda couldn't see anything worthwhile outside. Still, seeing all the other ponies disembark, she decided to join them. Cherry, unfortunately, was in close pursuit.

Hopping off the train, Zvezda was immediately blinded by the noon sun. After a few moments of confusion, she regained her vision and scanned the horizon. Apart from the rail tracks, a few large concrete boxes half-sunk into the ground, and some peculiar rickety towers in the distance, there really wasn't anything more to this 'Cape'.

Not unless she counted the chaos, of course. All around, ponies of every kind – most wearing thick woollen hats – were unloading crates, carrying them into storage bunkers nearby. With some concern, Zvezda noted the casual way with which they haphazardly tossed boxes labelled 'EXTREME DANGER' about. A few others seemed to be working on the train, perhaps servicing it? But if that were the case, they were going the completely wrong way about it...

Despite the melting heat, a sudden chill ran across her back as she realized exactly what the service ponies were doing with their blowtorches. Slowly undoing every seam, they were taking the carriages apart, working piece by piece to deconstruct their only way of going back.

She had no more time to consider this, however, as she suddenly felt Cherry tug at her blonde mane:

“Look, look! New recruits! It says, 'new recruits', right there! That's us!”

Managing to tear her eyes away from the service ponies – mostly because her mane would be torn away by Cherry instead – Zvezda set out in the indicated direction and looked at the pegasus. She seemed awfully cheery for someone who had spent fifteen minutes carefully detailing every part of her chainsaw-laden revenge plan, and Zvezda inquired about exactly that:

“I mean, that's what I thought at first too, but look at this place! It's obviously a top secret research lab!” Cherry began, “Isn't this so awesome? Like, we're in the middle of the desert, doing secret magic experiments that'll make the Sonic Rainboom look like a beginner's trick! And I'll bet we'll all have awesome code names. I'll be Agent Fireblade! Oh, it'll be great!”

Zvezda had no words. Some ponies were annoyingly cheery. Some were terrifyingly sadistic. Cherry somehow managed to combine the worst of both worlds into one great mass of utterly unpredictable pony. Secretly, Zvezda hoped she wouldn't last long in this strange place.

They finally approached the row of small stalls Cherry had been gesturing to. As there was a queue of new recruits behind each one, Zvezda lined up to which looked the shortest (Cherry in tow, unfortunately). Glimpsing towards the front, at every stall a stern-faced pony in a thick leather coat, each one quite undistinguishable from his peers (or the one on the train) was working behind the desk, carefully peering over the documents of each candidate and comparing them with the contents of a large ledger, eventually sending them off to somewhere.

The queues moved fairly steadily, but between the sweltering heat and Cherry's one-sided 'dialogue', seemed to take far longer than they should have. Finally, she was at its head, and grabbing her papers from a side pocket of her saddlebags, dropped them on the blackcoat's desk. Studying them closely, he read out in a tired voice:

“Zvezda Horyova, birthplace Sankt-Luneburg, metalsmithing specialist?”

Confirming her name, she turned slightly to show the stallion her cutie mark; Two overlapping I-frames, with a star in the middle. After a satisfied nod, he continued to inspect the documents for a few more moments before putting them down, proceeding to drone out in the well-rehearsed voice of somepony who has said the same thing a thousand times before:

“After your orientation session in Stable II, proceed to your section overseer for detailed briefing. Don't forget to take a map of the facility and your assignment papers. Dismissed.”

Quickly seizing the necessary documents, Zvezda galloped out of sight before Cherry would be processed. As she darted between the concrete bunkers of the facility, the only thing on her mind was putting as much distance between herself and that mare as physically possible. Thus, it came of little surprise when her rapid sprint ended with an abrupt collision.

Shaking her head to reorientate herself, she looked to see what she had crashed into, only to be confronted with solid wall of identical stallions in thick leather coats.

“Sector and ID number, worker! We'll have you shipped out of here before you can say 'lift-off'!” the most imposing of the group commanded, towering over Zvezda.

Still fazed from the crash, her brain began parsing the request. Sector... number? Before she could respond, however, a weak voice piped up from behind the solid wall of guard-pony:

“Comrades, comrades, that is good enough! Come now, let me see this 'assailant'.”

Grudgingly, the living wall split, letting an aqua-coloured unicorn of a small frame walk through. Stopping before Zvezda, she smiled as she studied her through a pair of cracked glasses, then turned back to the guard pony:

“Commissar, whilst I appreciate your concern for my safety, we cannot exactly afford to ship off skilled workers as soon as we receive them. Especially not after your last round of 'purges', yes?”

The commissar mumbled something unintelligible, and saluting, proceeded to help Zvezda back on her hooves. While doing so, however, he made sure to whisper a foreboding message into her ear: “We'll be watching you.”

That done, the security cordon withdrew to a safe distance, and the strange pony looked back at Zvezda:

“Excuse my security staff. This desert is such a tranquil place, and they have little to do. They certainly get... overzealous, at times.”

Despite not knowing anything about her, it was obvious to Zvezda the mare was in a position of high authority. Maybe even Chief Director? She made sure to respond fittingly:

“Of course, ma'am. You have my sincerest apologies for the accident, and I assure you-”

“Oh, don't fret it. The Cosmodrome is a busy place. As long as you're not carrying high grade explosives or fuel, a bit of crashing is fine,” she responded nonchalantly, then her face turned serious, “Watch out for ponies carrying fuel, though. I don't believe they've quite grasped what we're doing here yet.”

With a worried sideways glance at the storage bunkers, the pony bade her a quick farewell, then quickly retreated back behind the cordon of guards.

Looking at the strange group as they walked away, Zvezda sorted her saddlebags and was about to set out.

“There you are!”

Far too slowly, unfortunately.

“I've been looking all over the place for you! Anyway, check out this amazing assignment!” Cherry began twittering as she shoved a paper headed “Top Secret – For Your Eyes Only” right into Zvezda's face.

“Look, look! Test pilot! Oh, I can't believe I'll be flying one of those fancy new wingships I keep hearing about! I'll be the envy of everypony back in Sturmgart!”

Zvezda consolidated this new influx of information. Wingships, though a fairly recent development, did not require high-grade explosives, nor unstable fuels. In fact, they were little more than modernized balloons that could steer without the need for a pegasus to shift the winds. They certainly did not require test pilots to break speed records. And finally, though metal-wing manufacture was difficult, it did not require those elusive “Top-level metalsmiths experienced with high-pressure systems” that mysterious ad

had sought for. There certainly were interesting things going on in this facility, and Zvezda got the firm feeling this job would be less boring than most.

As all these disparate puzzle-pieces floated through Zvezda's head, a new piece of information suddenly came crashing in, unsettling the whole picture:

“You're- You're from Sturmgart?” she asked Cherry, somewhat in disbelief that such a crazy pony could come from Equestria's most-efficient industrial zone.

“Next you'll be asking where's my accent and my Lederhosen and where I hid my vast industrial estates,” Cherry smiled, before continuing, “I mean, my family *might* own a weather factory or seven, but that's completely unrelated to my place of birth! Now come on, let's go find that briefing hall. I heard there'll be free food.”

Chapter 2

Methods of Reaching Extreme Altitudes by Means of Pony Devices

Gathered in the high-roofed, but perfectly undecorated, briefing hall of Stable II, today's crop of new recruits waited. Looking at the cutie marks of those around, Zvezda already could spot the predominant technical bias. Smiths, metalworkers, architects, mathematicians. Even the assembled pegasi seemed to be very level-headed, with such talents as surveying, organization, or photography. Cherry appeared quite the exception here. Noticing Zvezda was looking at her, she smiled, revealing that her teeth were still full of half-eaten salad.

The murmur quietened down as a small aqua-coloured unicorn entered the stage. Much to Zvezda's expectations, it was the very same mare she had crashed into half an hour ago – though she was now wearing a new (and uncracked) pair of glasses.

"Fillies and gentlecolts, comrades all!" she began her speech, "I'm sure you have many questions about our organization. Why is our facility so secluded from the rest of Equestria? Why does a "Bureau of Atmospheric Experimentation" need so many technical non-pegasi? And how do they make the transport balloons so comfortable?"

"Those others got here on a balloon?" Cherry's jaw dropped, "The bastards!" she whispered.

"The answers to all these questions will become steadily apparent, very soon. For the moment, however, I'd like you to wait a minute longer and consider the following schematic. Roll slide, please."

The lights of the briefing room cut out, and a projected engineering diagram appeared on a large white screen that suddenly dropped from the ceiling. After a few seconds, and after considering the large scale pony to the diagram's right, Zvezda realized she was looking at the cross-section of a common – if somewhat large – firework.

“This is your simple everyday solid-fuel firework that little foals so dearly love,” the Chief Director began, “It uses a few engineering tricks that are not immediately obvious, but nothing difficult. Next slide.”

This time, a parabolic trajectory appeared on the wall, with altitude and downrange distances labelled on the Y and X axes; A hundred strides in each direction.

“Again, a fairly straightforward boosted-projectile trajectory.”

“Straightforward?!” Cherry piped up from the side, but was quickly silenced by the collective gasp the assembled ponies drew upon seeing the next slide.

Zvezda studied the new schematic. It was a firework. Well, several fireworks, stacked on top of each other, getting progressively smaller with height. There was also a considerable amount of reinforcing struts running along each one. While trying to check the schematic's scale, she noticed the performance statistics in the far left corner. Twelve tonnes mass, thirty tonnes thrust, one million ponypowers of peak output.

Blinking, she re-read the numbers again. 'High' was an understatement of the century, when compared to these figures. Nothing she had ever seen, not even the most amazing feats of locomotive boiler engineering, came within sight of such sheer, concentrated power. Why, just the amount of metal required to prevent buckling under these pressures would be...

Suddenly, Zvezda smiled to herself. It would be high, yes. Very high. But not infinite. And accounting for the size of that combustion chamber... why, yes, yes! Hard, incredibly hard to make. Top quality casting required. But not impossible.

She nodded to herself, her mind still quite blown; What the director was showing here was a proposal so far beyond conventional pony engineering, that no metalsmith in Equestria had bothered to even consider it. But now, some crazy pony had run the numbers – and they had come out just within reach of the possible.

The Director, satisfied that the ponies were now all sufficiently impressed, ordered the next slide. Again, it showed a fairly simple parabola... but the distances were greater. Impossibly greater. But a quick mental calculation confirmed they weren't fantasy.

“Unfortunately, these impressive diagrams remain, for the time being, just that; Diagrams. Roll film, please.”

A scenic shot of the desert outside covered the wall; Zvezda realized that it was a time-lapse shot as a small tower – perhaps three ponies in height – began growing in its middle, ponies jutting all around the frame as scaffoldings were erected and subsequently torn down. Finally, the tall firework lay assembled, and the time lapse switched to realtime. In the far edge of the shot, a single pony with goggles and a safety helmet pressed a large button on a small control box, then rapidly left the frame.

Rolls of white smoke began emerging from the bottom of the vehicle, slowly creeping over the desert sand, spreading to cover the entire viewport. Suddenly, a massive explosion threw the camera upside down.

The shot switched to another of these massive 'fireworks', even taller this time. Upon ignition, the vehicle lifted about ten strides off the ground, then spiralled suddenly and crashed back into the ground.

Another shot, another explosion, this time mid-flight.

And so the scenes dragged on. The constant explosions were certainly visually interesting – doubly so for Cherry – but there definitely was that faint subtext of despair about them. After the film finished, the Director was ready to speak again:

“As you can see, we still have quite a way to go in this line of research. That is where you come in. My recruiting agents have managed to gather the best craftspories from all over the world. Our plans are bold, our methods untested; This I admit. But working together, I truly believe we can overcome any obstacle, push back the boundaries of science, and provide better living for everypony in Equestria!”

There was a fervent clapping of hooves against the ground, the solid concrete floor adding to the effect by amplifying the volume even further. As the lights turned back on, the Director again reminded the audience to check in with their respective department heads, then withdrew amidst even more applause.

As the assorted ponies slowly scattered from the room, already excitedly exchanging opinions about casting strategies and alloy compositions, one stayed perfectly still. Stopping in one of the hall's many doorways, Zvezda

looked around to see Cherry standing utterly immobile in the middle of the room, legs quivering. Temporarily withdrawing from that amazing world of new possibilities the presentation had unleashed, she trotted up to Cherry's side.

“What's the problem? Too much awesome for you?” she asked playfully.

“Test... test pilot?” the orange pegasus managed to get out.

Oh. Right. Zvezda wasn't quite sure how to respond to that. Eventually, she softly nudged Cherry's side with her head.

“Don't worry. Unlike those other ones, yours'll have me on its design team.”

That seemed to cheer her up. Her legs stopped quivering, and turning to Zvezda, she raised her left foreleg: “Brohoof?”

“Brohoof,” Zvezda answered, returning the gesture.

Retreating from the podium, Wilhelmina wondered if that had really been the best way of introducing the project. Her recruiting officers had assured her that the explosions not only 'looked cool', but also immediately and succinctly outlined the recruits' goals; And yet the thought of showing this footage made her uneasy.

What if there were investigators from Canterlot present in the audience? All calls were monitored, and the remote location made it difficult to leak information, but the risk was definitely there. Wilhelmina did not want Celestia to know where all those millions of bits earmarked for 'weather research' were really going. At least, not before there was something to show for it. Seeing the Commissar waiting at the bottom of the stairs, she nodded to him:

“Drive up security around the site. I don't want any leaks,” she commanded, then quickly added “But don't overdo it. I don't want another blue salad incident, you understand?”

The pony saluted and, with a shout of “Jawohl, Stute-Direktor!” galloped off, his thick leather coat fluttering in his stead. How he withstood the heat, Wilhelmina had no clue, and she did not want to know. Still, the Commissar

had proven himself a most dependable stallion, so she was willing to cut him (and his department) a little slack in clothing style.

After a brief refreshment, she left Stable II for a pleasant stroll through the entire facility, checking on all the new recruits. It was pleasant to see the mighty machine of the Cosmodrome slowly tuning into gear.

With all the equations invented, the initial calculations computed, and some minor groundwork now laid, it was finally time to really kick this project off. As much as she was looking forward to the science, however, she still had one last bit of annoying PR to prepare for. The first test pilots would arrive next Monday, and they would have to be treated to a most decidedly different introductory session.

Days at the 'Cape' passed rapidly. Though there were only a handful of experienced personnel, who were quite outnumbered by the sudden influx of new recruits, they nevertheless managed to wield the swarms of newbies with surprising skill. And as Madam Director was a firm believer in the 'sink or swim' school of didactics, the first launch was scheduled for the first Sunday in.

Easing her leg off the controlling pressure pad, Zvezda dropped the welding torch and took a few steps back, inspecting the seam she had just made. The joint was very good, one of her best, a clean even run with no bubbles. However, she was far less confident than she had been on the first day of her first apprenticeship. She usually made ploughs and carriage wheels, not rocket engines.

The long concrete workshop was sweltering with heat, and Zvezda took a small break to steal a few sips from the trough of water nearby. Despite its low roof, the facility was in fact several hundred strides long – enough for the entire rocket, and its still-unassembled components, to fit comfortably when laid on its side. A pair of tracks ran across the length of the hangar, to provide a means of removing the vehicle from the assembly building. Her overseer had joked (or perhaps related a bitter truth) that with the very first rocket of this size, they had no railway tracks, and couldn't get it out of the hangar; In the end, this forced them to completely scrap the whole thing and start over again.

A week earlier, Zvezda would have laughed at such a ridiculous failure, but with the rocket now slowly growing before her eyes, she had to give serious respect to those first ponies. Armed with nothing but a few vague sketches from an absolutely insane genius, and several untested equations, they were inventing a whole new industry.

Looking back at her joint in more detail, she noticed one of the two plates had a visible bulge in it; Annoyed at the poor craftsponyship, she looked around the workshop:

“Sara! Another one here!” she yelled.

“Coming, coming!” came back the exhausted reply. A few moments later, a visibly dirtied violet unicorn emerged from behind the other side of the vehicle. Trotting over to Zvezda, she inspected the buckled plate.

“Makes you wonder why there are so many, doesn't it, Vez?” she asked as a dim light surrounded her horn, and the metal plate slowly began falling into shape.

“I sure know that I've never made plates this thin for a plough,” Zvezda related, still fascinated by the sight of magically morphing plate, “Or made this many this fast.”

“You tell me,” Sara slowly said through her gritted teeth, drops of sweat flowing down her brow as she forced the metal into position.

“There, done,” she added, “Look, my whole life I worked in my parents' jewellery store in the tourist quarter of Manehattan, right? Ever since I was a little filly, the metal just *flowed* for me. I thought that's all I was going to do. Now, I'm making giant boomsticks that will revolutionize the life of every foal, mare and stallion in all of Equestria. Yay me.”

“The pay's good though, right?” Zvezda smiled. Sara could be a bit sour at times, but the sheer amount of effort she put into the project was nothing short of amazing.

The mare nodded, “Oh yes. Whether this stupid thing works or not,” she punctuated her sentence with an angry – yet weak and controlled – kick at the metal hull, “At least we'll finally be able to afford redoing that old facade. I tell you, that thing's *falling apart!*”

Zvezda suppressed the urge to ask why a jewellery store – in Manehattan of all places – lacked the money to redo its facade, and instead looked at the emerging vehicle. The Director's deadline was harsh, but they could probably meet it. With a miracle or two.

“Got another one, Sara!” came a shout from the other side of the hangar. Giving Zvezda one last look of desperation, she trotted off.

Seeing her run off, Zvezda found her assignment checklist and groaned at how many boxes were still left unticked. This would be one long shift...

“Wait, run this by me again,” Cherry ordered the technician, disbelief quite audible in her voice.

“Of course.”

“So, you're going to send me up in this balloon.”

“Yes.”

“You'll send it up so high that I'll have trouble breathing and my wings'll barely work.”

“Right.”

“And then, then you'll blow up the balloon part of the balloon.”

“Yup.”

“The one that makes it fly.”

“Uh-huh.”

“One question comes to mind. WHY ON EQUESTRIA ARE WE DOING THIS?” Cherry screamed in helpless rage. Something that was becoming very much commonplace in the Equenaut training complex.

“Look, after you've flown up into space and gone through re-entry, you don't want to just end that by getting smeared across half of Fillydelphia. That means you're going to have to jump out of the capsule, and do that while it's still high up enough for you to level out from the fall. That final step is what we'll be practising here tonight.”

Cherry considered the brown pony's words. They were reasonable enough, but this whole 'Test pilot' business has ended up meaning a lot more falling and a lot less flying than she would have preferred. In fact, this appeared to be about the only part of the program where she'd get to strut her wings, at least a little. And even here, it would be more of a glide.
Lame.

Plus, as she watched the technician lock the straps that attached her to the basket – to emulate the various tangled oxygen and water lines that would be attached to her during a real flight, as he had explained earlier – Cherry realized nopony had yet explained just what that whole 're-entry' thing was about. It seemed to pop up a lot, but the tech-ponies had this peculiar habit of either suddenly remembering forgotten errands, or simply whimpering in terror and galloping away whenever she asked.

The last latch in place, the tech-pony locked the balloon's burner on full open, quickly set the spring-loaded timer on the explosives, then bid her good luck and galloped away, towards the observation post. Meanwhile, two assistant ponies let go of the tethers, and Cherry shot off towards the skies.

As the vehicle started on its slow ascent, Cherry tried wiggling around to check just how much the straps limited her movement. As it turned out, apart from the neck, she was pretty much locked in place. Making sure she could reach the foreleg release latch with her teeth – something that she really should have checked back on the ground now that she thought about it – she relaxed and enjoyed the evening air.

Evening was the best time in the desert, really; The sun's eternal glory had since gone down and stopped frying innocent ponies, but the temperature had not quite dropped to frightfully cold yet, as it would after midnight. Plus, especially at this altitude, gentle breezes blew past her face. It was pretty nice, actually, a welcome break from the the constant mechanics and astronavigation classes. Life was too short to spend hours calculating apogeas and thrust coefficients and supermajor semiaxis inclinatures, that was Cherry's philosophy! The only maths a pegasus needed was percentages, and she knew hers off by heart.

Right now, she certainly could appreciate being about 50% warmer. The balloon had already ascended quite a way above the surface, and the temperature was dropping quite rapidly.

Craning her neck to get a glimpse of the explosives timer, she noticed it had already stopped ticking. Furthermore, a thin layer of frost was covering the detonator circuitry.

“Uh oh,” she said, somewhat redundantly.

As the balloon continued its ascent, Cherry was now getting seriously cold. The straps prevented her not only from leaving the basket, but also from curling up to conserve at least some extra heat. The burner had ran out of fuel a while ago, but the ground certainly wasn't drawing any closer. She was pretty sure she'd freeze before it came back down.

'Time', and passage thereof, were fairly alien concepts in the abandoned nightly skies. There were no clouds, no visible terrain features, nothing to judge movement by. The balloon simply continued to float, seemingly lost in space and time.

Feeling her joints stiffen, Cherry moved her neck about, trying the attachment latches again, for the umpteenth time. Of course they didn't release; They wouldn't, not without an electric signal from the main detonator. Cherry had no idea what genius thought that one up, but she promised to cause serious bodily harm to whatever pony was responsible, hopefully by the means of a welding torch; There were plenty back at Stable VII.

Another indefinite measure of time passed. She was cold. So cold. All feeling was lost from her hooves, and the senselessness was slowly making its way up her legs. Not that she minded too much, though. No feeling meant no cold.

Managing to lift her heavy head, she looked up, to find herself staring straight into the Moon. It was a beautiful sight, especially from this high up. It somehow seemed much bigger than back on the ground. Studying the subtle greys and whites that played across its alien terrain, she smiled. It would have been nice to walk upon its surface. But even so, this was definitely the highest she had ever flown. With just a bit of luck, higher than anypony else. Setting a record wouldn't be such a bad way to go, would it now?

The grin on her face widened as she continued to stare into the Moon. *Luna, if you can hear me, promise me this. Promise me I'll die the highest-flying pony in all of Equestria.*

Thank you.

The feeling of nothingness continued to creep up her legs. It had already reached her flank. But Cherry regretted nothing. Had she turned down that friendly recruiting officer back on campus, where would she be? Junior assistant cloud removal at best – let's face it, she never was that good at weathermaking. Spending the rest of her career chasing after those little cloudlets the real weather-masters couldn't be bothered to clean up. Perhaps even managing to find a nice stallion to settle down and start a cute little family with. That life would be long and peaceful, sure. But it wouldn't be a life for her. This way, though she wouldn't last, she has been given a chance to realize what had once been just a fantasy; To soar high above the limits of feeble pegasus wings. To touch the stars.

Or for the stars to touch me, it seems.

Whoa. That thought had come out of nowhere. Wondering what prompted her mind to think such a ridiculous thing, she suddenly noticed a pair of fireflies circling below her.

Fireflies? Where would fireflies come from?

One of them abruptly exploded in a brilliant flurry of coloured lights. Cherry was just about to pity the poor thing, before her cold-straddled brain managed to fully process the display.

Fireworks? The second one detonated into a similar pattern of light, confirming her suspicions.

And it wasn't just the two. All along the ground, more and more specks of light were rocketing towards Cherry. Most exploded before ever coming near her; Some flew past her to detonate somewhere higher up in the stratosphere (or was that the ionosphere?). Either way, with each subsequent salvo they steadily drew closer and closer.

What parts of Cherry's mind still worked were seriously impressed, both at the pretty visuals and the amount of effort the Cosmodrome was putting into saving one single pony. The entire crew must have been mobilized in order to get those fireworks shooting up that quickly, and only Celestia knew how many crates' worth of propellant would disappear into this one desperate attempt. And to add to that, she realized what a poor return-on-investment she was; For all her bluster, Cherry knew very well that her skill at mathematics was well below expectations, and that she simply didn't *get* astrodynamics. For the Director to try and organize such a vast rescue attempt nevertheless... she was touched, to say the least.

In only a few seconds more, one of the thousand fireworks managed to detonate exactly above her balloon, close enough to trigger a secondary explosion from the basket fasteners. Slowly realizing she was falling, Cherry heard the most beautiful sound in the world; a faint 'click' as the electromechanical relays in the fasteners triggered themselves, unlocking the release latches.

Her mouth numb from the cold, she slowly managed to undo the first strap; And soon, the second. As the basket tumbled through the air, spinning wildly in all directions, Cherry thought that this must be what a real return from space would feel like.

The rapid pumping of her heart managing to inject some life into her frostbitten limbs, Cherry continued working down the list of straps, faintly singing the brief ditty she had memorized to remember their order.

At last, she was free! With what little strength she had left, she kicked herself away from the spinning basket, finally soaring unbridled through the air.

There was one last snag – her wings. Though she tried as strong a flap as she could, her body simply lacked the strength to fly after being

subjected to subzero temperatures for so long. She tried to stretch them out and attempt a controlled glide – or at least a slowed fall – towards the surface, but they simply would not hold, uselessly fluttering in the wind instead.

Seeing the ground approach rapidly, Cherry screamed:

“I am *not* going to die! Not now! Not after all that!”

Putting all her strength into the motion, she managed a single mighty burst of upthrust, then nothing. As she plummeted towards the ground, she tried to think of good last words. But the effort had been too great, and she promptly lost consciousness.

Wilhelmina watched the plummeting pegasus through her pair of binoculars. Though she had shown courage and willpower that was beyond most ponies, there was only so much a strong mind could do against the laws of physics.

Fortunately, she had planned for this contingency.

“Stage seven recovery team, GO!” she yelled towards the teams of ponies assembled below, then added her own powers to the mix. Though most unicorns weren't very good at general magic and could only perform highly specialized tasks, all could handle at least basic telekinesis, however weak.

The combined strength of the Cosmodrome's unicorns was now all being poured into a single action; Slowing the descent of the world's first Equenaut.

“Final... stage... GO!” she managed to utter, straining at the effort. The commissar relayed the order, and a pair of the facility's strongest pegasi rocketed off. The telekinetic efforts had managed to slow Comrade Cherry's fall sufficiently, and Wilhelmina watched as the two approached her, matched velocity vectors, grabbed her, and finally slowed down to land softly and safely back on the desert sand. Collapsing on the ground from the exhaustion – magic certainly was not one of the Director's talents – she gasped:

“Mission... successful.”

Chapter 3

Star Walker

Nodding in thanks to the nurse holding the door for him, Geist entered the long hall of the sterile medical bunker, carrying a large bouquet of flowers in his mouth. The brown-skinned techpony stood in the doorway for a confused second, then shook his head to remove the short-cut black mane from before his eyes.

Having done that, it wasn't too hard to spot the room's only occupant amidst the rows of empty medical beds; And neither was it hard for the bed's occupant to spot him, he realized, as Cherry slowly lifted her foreleg and gave a careful, if not any less cheerful, wave to her personal techie. Though it was the wee hours of the morning, the pegasus seemed to be as awake as ever.

Trotting up to her side, Geist dropped the veritable banquet directly on her bedsheets.

"Aww, Geist, you shouldn't have! Where did you get these in the middle of a desert anyway?" Cherry's cheeks flushed, restoring at least some colour to her faded face.

"Don't worry, it was nothing. A few of us tech-ponies got together and scoured the entire facility for anything green. You deserved it."

The pegasus did not reply, opting to sink her face into the flowers instead. Though she was still just as cheery in her demeanour, it was painfully obvious to Geist just how much had that brief brush with death taken out of her. Her voice was weak, her movements slow, and what little could be seen of her underneath all those blankets was dangerously pale.

Taking a timid first bite out of the bouquet, Cherry nodded in satisfaction:

"Mmm, but these are good! Really good..."

A few seconds of silence followed; Whether it had been awkward or not, Geist couldn't quite tell. Nervously digging his foreleg into the floor, he cleared his throat and spoke up:

“Anyway, I just got back from the Accident Investigation Committee and wanted to-”

Feeble as her voice was, Cherry still managed to interrupt him:

“Oh my gosh! You weren't fired, were you?”

Geist stopped for a second, slightly taken aback by her concern.

“What? No no no, that's not it at all! One of the batches of wiring we imported was faulty – what more, a lot of them ended up in the rocket we're building right now. If we hadn't caught that, the whole thing would have gone boom right after lift-off. They're replacing them as we speak. The Director's just grateful that we found out in time, and that no pony died.”

“Glad to be of assistance,” Cherry smiled, taking another bite out of the flowers.

“Still, I came here to... well, to apologize, really. I should have tested the stupid thing before sending you up in it. It's all my fault,” Geist lowered his head, looking at the ground. He hadn't gotten any sleep ever since the accident, working day and night to discover its cause; And yet he felt horrible about the whole ordeal.

Feeling her hoof brush across his mane helped with that.

“Hey, it's okay. I'm still here, aren't I? The nurses say I'll be up and flying in notime!”

Geist looked back up, into her weakly smiling face. Though he certainly appreciated the emotion, he couldn't stand her smiling, not like this. Someone like Cherry ought to be full of life and energy, and to see her weak and subdued like this was simply heartbreaking. So, he looked back at the ground:

“You really don't mind?”

“Just remember: Before this, I had no chance. I was a guinea pig, testing the training program until the *real* 'nauts showed up. I might be

pretty good at flying, but they'll also actually be good at maths and theory. Unlike somepony,” Cherry chortled to herself, “But now, I have real experience. The Director'll know she can rely on me when things go wrong. That should help my chances. If anything, I should thank you!”

Somewhat surprised at such a level of cynicism (not to mention realism) coming from Cherry, of all ponies – perhaps the accident had changed her? – Geist uncertainly returned the smile, then reached back into his saddlebags. Extracting a thick yellow folder and dropping it right beside the flowers, Geist quickly changed the topic:

“Anyway, look what the director gave me as I left the meeting,” he announced, quite the bit of pride in his voice.

“Star... walker?” Cherry questioningly read out the folder's title.

“Yup,” he smiled, dragging the suspense out a second longer, “The Director has just finished with the first draft. And she wants *me* to build the training simulator.”

Turning the cover card with his teeth, he stood back and let the orange pegasus first gloss over the technical specifications, then carefully inspect the sketch of the design.

“What you're looking at is a whole new era of Equestrian history. A revolution in engineering. Our first steps towards giving the stars to everypony.”

“Looks... like a ball. With some blobs glued on the side,” she announced, the disappointment in her voice clearly evident. Despite his bombastic introduction, Geist really couldn't help but agree; Compared with the artists' impressions of futuristic space-planes and moon-landers that lined the corridors of Stable I, the first actual design was, quite frankly, a joke.

“I know it's not exactly glamorous, but right now, practicability comes first. With mass and heatshield concerns as they are, that sphere's going to stay. The blobs we can change, though. The Director may be a genius, but drawing certainly isn't one of her stronger skills,” he chuckled, remembering some of those first attempts at rocket sketches.

Cherry nodded as she took it all in, then asked, “Heatshield?”

Geist gulped. He had been waiting for one of the other ponies – perhaps Redstone – to explain the concept of re-entry to her. Considering her current condition, he instead chose to skirt around the subject:

“Anyway, like I said, it's just the first draft. The first locomotives were just a hodgepodge of pipes and gearing too. It's going to get cooler with time.”

“One thing that'll to have to get cooler quick is the name. I mean, 'Star Walker'? Come on!”

“I – Uh. Hmm. Well, the Director's always on the lookout for suggestions. There's a box for them in Stable IV's canteen.”

“I'll make sure to drop by once those nurses let me out of here. At least I'll have lots of time to think 'till then. First off, it's going to need a lot more X's – it's not an experimental craft unless it has X's. Next, 'Walker' sounds like it's being piloted by an old granny; I'm a pegasus! I want speed! Something like 'Eagle' ought to do. Plus,...” Cherry began excitedly twittering to herself. Leaving the summary page but taking the rest of the folder, Geist smiled and bid her a quick farewell as he retreated from the dreary medical wing. Finally, it was time to get some sleep.

Insomnia appeared to be a quickly rising trend amongst the Cosmodrome's design staff. 'Rocketing', one could even call it. Chuckling to herself, Wilhelmina gulped down another large cup of coffee as she searched through the stacks of papers that covered every square inch of the wooden floor.

“Where did I put that blasted... ah, there it is!”, she victoriously announced, telekinetically levitating a series of sketches on possible interstage designs out of the chaos below, before proceeding to shove them into Lyuka's face.

Her assistant, a green pegasus with a long, if badly kept and somewhat fuzzy blue-tinged mane, shook her head:

“I'm telling you, if our test data is anything to go on, that thing'll be undergoing enough oscillation to shake the capsule right off! We need to get a structural support in there!”

Dropping the paper, the Director slammed her hoof into her own face:

“And how are you going to fit it to the capsule? Drill a hole in the heatshield?”

“Well, yes, but-”

“Whoo!”, Will clapped sarcastically, “You just fried our country's first Equenaut! But hey, better that than risk a tiny chance of it *wobbling*, isn't it? Oh no, not the *wobbling*!”

Strutting around the quarters in frustration, Lyuka waited patiently for the Director to finish with her melodrama, before firing back:

“It's not going to wobble, it's going to shake apart! Unless you've magically solved the thrust variability problem while I wasn't looking?”

“Hmm... magically..”, Will pondered the idea for a second.

“Why, yes! All we need to do is find a unicorn whose cutie mark is dampening solid fuel motors! How obvious!”

“Not to mention one who can fly,” Will conceded, “In-flight magic won't be an option until we've made a soft-landing capsule, one which doesn't require a mid-descent ejection. Until then, we're stuck with pegasi.”

“‘Stuck with’? Do I sense magic-user privilege?” her assistant insolently asked, wings flaring.

Will took a deep breath, “We're getting side-tracked in pointless bickering here.”

“You're right,” the pegasus nodded, folding her wings. She then threw herself on the ground and lazily turned hooves-up, “Again.”

“It always starts off so well, doesn't it?” the Director sighed, collapsing on the sea of papers next to Lyuka, “I get a brilliant idea, run to your office to get a second opinion, and before we know it's four in the morning and we're screaming murder at each other over something ridiculously simple.”

Turning around again, Lyuka fished out another sketch and laid it over the others, “Or something ridiculously hard, in this case.”

“Yeah..” Will trailed off, then yawned and looked at the sketch with Lyuka, “There has to be a simple solution here, I know it. But we just keep missing it.”

The two mares continued to silently stare at the sketch for a few minutes, then Lyuka swore in frustration and, with an angry burst from her wings, sent the paper (along with many others) soaring across the room.

“Can't we just submerge the whole thing in water? That'd dampen it nicely,” Will spoke the first random thing that floated into her head, as she watched the blizzard of floating sheets slowly settle itself back on the floor.

“Nah. Too heavy. We're over our mass budget as it is, and adding several tonnes of water isn't gonna help,” her assistant replied almost absentmindedly as she stared off into the distance. Tracking her gaze, Wilhelmina followed it to the large poster tacked onto the wall; A profile view schematic of their current rocket design. The one that was being assembled right now in the confines of Stable VII.

“Do you think there's any point to what we're doing here?” Lyuka asked, her gaze still distant, “I mean, we've built seven of these things, and they all just blew up. Some just rumbled on the ground, some flew a hundred hooves before shaking themselves apart, but they all. Just. Blew. Up. Here we are, talking about sending ponies into outer space and back, and we can't even get a simple rocket right!”

Will stayed silent for a while, mulling over what her assistant had just said. Eventually, she spoke up:

“The rocket's the hardest part. If we can get that right, the rest will all fall into place. We'll get prestige, funding, Celestia's respect- oh dear. Celestia.”

“Still haven't figured out how you'll tell her, eh?” Lyuka asked with a sad smile on her face, “I'd say 'told you so', but I know all too well we couldn't have gotten this funded otherwise.”

“Gosh, what if she really *is* omniscient?” Wilhelmina sunk her head into her hooves, “Maybe she's watching us right now, and just laughing.”

The green pegasus blinked: “...that doesn't really make sense. If she were all-knowing, she wouldn't fall for the trick in the first place.”

“Or maybe she just pretended to, so she could later hit us with a big fat punishment for even daring to trick her like that in the first place.”

“She's not like that,” Lyuka retorted with hope in her voice, then added, “Plus, the deception wasn't all that big, right? I mean, 'Bureau of Atmospheric Experimentation' could easily be construed as meaning lots of things.”

“Too bad I explicitly claimed it was for weather research, then.”

“Oh.”

“Yeah,” Will dryly nodded, then let out another lengthy yawn, “Sometimes, I really do wonder if it's all for nothing, though. You're right. Our heads are in the stars, but our rockets just keep failing.”

“The equations are right,” she continued, “I've double and triple checked every last one. They all work. The gas flow dynamics, the expansion factors, the dynamic heating; It all checks out! And I still hold that putting a supersonic nozzle onto a firework was pure genius. But when it comes to putting theory to practice..,” she trailed off.

Brushing a few dozen papers away and slowly getting back on her hooves, Lyuka shook her head: “You know, you *could* have just published those in a book or something and be forever remembered for your contributions to pony science. But no, you had to run off and trick a goddess into funding your little toys!”

Despite the distinct annoyance in those last few words, Wilhelmina still knew her assistant supported her all the way. Their dream was shared; Just their methods sometimes diverged.

“I'll bring the stars to every single foal, mare and stallion in Equestria if it means surviving Celestia herself, mark my words,” the Director announced resolutely. Deep down, though, she was not so sure.

I was born in the wrong damn century, she thought briefly to herself before collapsing from exhaustion. Bed, floor, lava pit, her mind was too tired to recognize the difference now.

Lyuka looked at the snoring Director with considerable respect. Her constant all-nighters, personal inspections of every workshop, regular morale-boosting speeches; That was one committed pony. She had even managed to avoid saying 'comrade' once this entire conversation, so more power to her.

Though Lyuka had been encouraging every time the topic was brought up, personally she was quite worried about the whole Celestia business. She knew her superior far too well. Unlike Lyuka herself, when confronted, Wilhelmina really would defend her dream to the bitter end, even against the gods themselves. And who knew how the gods would react? After all, the stars had belonged to them since time immemorial. Would their attempts be interpreted as insolence and rebellion?

Not able to push sleep back any longer, Lyuka hazily looked around her quarters. All these questions were better left for another day. Meanwhile, she was quite sure there was a bed underneath all these papers somewhere, but no matter how hard she looked, she just couldn't see it.

Deciding to simply follow her superior's example instead, Lyuka smashed herself into the floor beside the Director. She didn't dream of anything that night, like she hadn't ever since starting up this project; All her dreams were out there in the real world now.

Chapter 4

Ad Astra Per Aspera

Hearing amazed gasps coming from the entrance of the workshop, Zvezda put down her blowtorch and looked around; A group of ponies in thick woollen hats stood in the entryway, balancing a large contraption of wires and tubing on their backs. Amidst all the thick cabling, she could discern two giant brass spheres, each one almost entirely covered in a jungle of densely-packed copper coils, the long black bars of control solenoids, and small clear jars filled with some unknown liquid; Zvezda usually prided herself on immediately understanding any machine or mechanical device she came across, but this? She tried tracing some of the connections and figuring out their purpose, but gave up a few moments later upon realizing their sheer number.

“So, what's that all about?” Sara asked casually, cooling her fore hooves in the workshop's trough of water.

“It doesn't look like anything I've ever seen before. So probably the control unit.”

“Control unit, huh? What's there to control? Doesn't this thing just go straight up?”

“No idea. But I do know that we were supposed to start mounting it this morning, and it's only arrived now.”

Chortling in frustration, Sara nodded knowingly, “So... more overtime for us?”

“Yup,” Zvezda confirmed, watching the ponies as they carried the strange contraption towards the front of the rocket. The Director's schedule would be considered harsh even with a skilled workforce. For a team who were just blindly following vague schematics without the foggiest clue of what they were actually doing, or what their particular creation was supposed to do, it was rapidly turning out an absolute disaster.

“There, there... steady now... a bit more to the right, Blues...,” the workshop supervisor instructed a team of pegasi, as they lifted the strange device off the backs of the hat-wearing ponies and suspended it alongside the rocket's front, “Zvez, Ter, Flake, your time to shine!”

Trotting up to the device, blowtorch in mouth, Zvezda prepared to weld one of the contraption's four attachment points to the hull of the rocket, as was written on her daily to-do list; Though, to be perfectly frank, the exact wording had contained a lot more numbers and jumbled strings of letters, and it was only by staying up late last night and peering over the schematics that she actually knew what went where. Around her, two metalworking pegasi flew upwards, power cables trailing behind them, ready to affix the two points higher off the ground.

Looking back and forth between the control unit and the rocket hull, Zvezda paused uncertainly.

“Err, boss?” she asked hesitantly, looking over to her supervisor. She was quite busy micromanaging the pegasi to hold the device upright, and wasn't paying attention to anypony else.

“Boss!”, Terra added her voice to Zvezda's.

“What, what?” she shouted in annoyance, “You ponies have a job to do here!”

“That's the thing. Just come over here and look,” Zvezda gestured over to her assigned support.

Shaking her head, the earth pony slowly made her way over to her, uttering ample curses aimed at 'incompetent plebs'. Those ceased, however, when she reached Zvezda and saw the supports herself.

The control unit, and its many tubules, relays, and assorted clumps of wiring, was equipped with four wing-like supports that deployed outwards, designed to fit snugly into the inner sleeve of the rocket hull, whence they could then be welded with a minimum of fuss; Though constructing the rocket horizontally had made most tasks easier, this was the one exception where a vertical position would have been preferred, and this complex attachment system was designed to mitigate that. And it would have done, had the connectors not been stretching out beyond the hull, five extra inches in each direction.

“Oh, by Celestia's- somepony get me the schematics, NOW!”, the supervisor hollered in disbelief.

“Wait, so can we drop this thing now?” one of the pegasi holding the device in place shouted back.

“No! Stay exactly where you are! And don't you dare drop it, otherwise it's coming out of your pay!”

Briefly glancing at the numerous and shiny (in other words, *expensive*) electromechanical components, the pegasi quickly redoubled their efforts, terrified looks on their faces. For once in her life, Zvezda was glad she had been born an earth pony.

Another engineer quickly ran up, dragging the long roll of blueprints behind her. Not even stopping to thank her, the supervisor quickly began studying the section of interest. After a few moments, she stamped her hoof on the prints, tearing them slightly:

“Says right here, inner sleeve, diameter sixty five inch exact! Somepony get me that measurement!”

Terra quickly grabbed one end of a measuring line that lay on a nearby table and flew up to the afflicted section. Likewise wanting to redeem herself in her supervisor's eyes, Zvezda quickly clenched the other end in her teeth and brought it up against the lowest point of the inner hull.

“Sixty five exact, boss!”, the pegasus yelled back after a bit of fumbling.

Breathing out a sigh of relief, the pony kicked the schematic away, damaging it even further:

“Not our fault, then. Everypony, as you were! Blues, carry the thing somewhere outside, will you? Zvez, Ter, since you ponies noticed it, go tell the Director. Meanwhile, I've got to go test those manoeuvring vanes.”

Zvezda and Terra exchanged annoyed glances, then both looked at Blue's team of pegasi, who were straining under the weight as they carried the ill-fitting device off. Seeing Terra quickly fly off before the supervisor reassigned her, Zvezda followed suit and promptly vacated the workshop.

The Director was in Stable I, enjoying a pleasant mug of coffee with the Star Walker simulator designers. That ended quickly when Terra and Zvezda tore into the room. After a bit of muddled explanation, they all galloped straight to the main assembly facility, pausing only to grab a few schematics and the head designer from the Electromechanics Department.

Comparing the blueprint with the control unit, Geist kicked the sand in frustration. Every single piece lined up perfectly. All the relays in the right place, all the dimensions correct, there was no reason why it suddenly didn't fit. Across to him, Lyuka was comparing the rocket's hull with the schematics provided by the supervisor.

"All good from this end," she reported.

Geist confirmed back, "Control unit's also perfect."

"Of course it is," the sleepy-eyed electromechanics unicorn noted, still annoyed at being woken up this early in the afternoon. Her skin was extremely pale, probably the result of not leaving her electrics lab for weeks at an end, and her eyes were blinking uncertainly in the harsh light of the unfiltered sun. Geist tried to remember her name – Seq, Sagan, Sequin? Sequine, that was it!

The assembled circle of ponies shook their heads. A small distance away, the work crews were enjoying some rare time off, resting in the shade provided by the long squat structure of Stable VII and rehydrating themselves.

"The problem is, we're going too fast," the supervisor insisted once again, "Unless we loosen up the pace, my crew'll get worked to death for absolutely nothing!"

"I told you; We are already behind schedule. Celestia's inspection is due in four months, and unless we can present some considerable results for all that money, she will just shut us down."

"You can't just hurry something like this! This prototype alone has far more components than, well, anything ever built! Unless we take some time out to test *before* systems integration, we're going to waste more time correcting our mistakes than we save by rushing!"

Lyuka pointed to the timetable that somepony had thrown on the sand, “Go through that. The whole thing. We haven't even started cutting metal for the Star Walker, Celestia's coming in four months, and you want us to go *slower*?”

The Director waved her aside, “Capsule and booster development can be run in parallel. The real problem here is that we need to successfully test the core stage design. Without that, we cannot test clustering, without which we cannot test staging, without which we will not even get the Star Walker off the ground.”

“Well, for a scaled-down test we could just forgo staging. If we do it right-”

“No. We do not need it to work reliably, but we do need it to look big and impressive, and a single stage does not do that,” the Director shot back.

As the two began arguing about the semantics of the word 'impressive', Geist just groaned. Such discussion flew far above his pay grade. He just built the training sims. Going over the blueprints of the control unit once again, desperately looking for anything he might have missed, his eyes wandered over to the corner of the sheet:

'INERTIAL TRACKING AND STABILIZATION SYSTEM [ITSS] – rev. 24'

It couldn't be that. Buck no. The Director was far too organized for something like that to happen. But Geist was out of ideas. Taking one look at the bickering chief designers, he decided to instead discretely gesture to the workshop supervisor:

“I was just wondering; What revision are you on?”

The supervisor gave him a dumb look, “The latest, obviously. Twenty four. We're not *that* dumb, despite whatever the Director may think.”

“Okay, okay, just checking,” Geist replied defensively, now completely out of ideas. Meanwhile, the electromechanics pony had suddenly snapped to attention. Lazily wondering over to Lyuka, she tilted her head as she studied the rocket schematics laid out before her. Finally, she announced:

“Twenty four *slash a*.”

This done, she fell back to her stupor. A stupefied silence fell over the crowd of designers.

Zvezda smiled as she sunk her head into a bucket of cool water. It was nice to finally have a break from the constant welding. The vehicle integration team had worked so hard over these last few days, significant swathes of her white skin were now becoming tanned from her constant exposure to blowtorches. Even so, the job was still far more interesting than making carriage wheels.

Continuing to hold her breath under the water, she wondered whether they were ever going to get a pony to outer space, and whether it would be Cherry. The mare's performance during the training accident had certainly increased her standing in Zvezda's eyes, but she was nevertheless grateful they weren't in the same work team, or even the same department.

A terrifying loud noise suddenly startled her, causing her to breathe in a large gulp of water. Kicking away from the bucket and coughing wildly, it took her a while to realize the alien noise was coming from the Chief Designer. She had never known ponies could even produce such horrifying sounds.

"Twenty four! I told you to work on twenty four! Did I say anything about 'A'? Did I? Did I?"

"When I woke up on Monday, there were two separate designs stuffed into my box! 24 and 24/a! Which would *you* choose?"

"If you weren't sure, why didn't you just *ask* me?"

"I would have, had *somepony* not been so busy working on pie-in-the-sky 'Starwalkers' that she couldn't make time for a five minute meeting!"

"When I am not sure about mega-million projects, I don't flip a coin, I *ask*!"

"Enough! Enough!", Lyuka shouted, "Look, what's done is done. We can either play the blame game all day long, or figure out how to fix this thing. Now, how much has changed between the two revisions?"

"I redid the whole inertial navigation system," the Director said quietly, kicking the sand, "Then I realized there wasn't enough space, so I also had to enlarge the nosecone. The rest should be fine."

"I don't suppose we can just take a saw and make the thing smaller, can we?" Geist asked. Apart from an evil glare by the designer of the control unit, the question wasn't deemed worthy of comment.

"Well, we don't have time to redo the rocket. What's wrong with the old control unit?" the supervisor remained adamant.

"I've added a second gyroscope. With only one, breakdown from oscillation is all too probable. With two, my system can detect one has failed and disregard it."

Another evil glare from Sequine reminded the present designers who actually added the second gyroscope and worked out the details of the switching system, and who just ordered it to be done.

"Well then, looks like we'll just have to take that chance. For this prototype, at least," the supervisor decided, "There's not really another option, not with this schedule. Can you build us a 24/a version in time, Sequine?"

She gave her a third evil glare, this one much worse than the others.

"Obviously not," the Director said, "Well then, we will just have to take this one, swap the support struts, rip out the second gyro, and make it fit. Sorry Sequine, I know how hard you worked-"

The last glare was nothing compared to this. Its intensity actually made the Director stop mid-sentence. Quickly turning away, she instead faced the supervisor:

"Can you skip ITSS integration for the time being?"

"We still have to mount the nozzle and the winglets. If we do that today and tomorrow, we can put off control and nosecone integration until Saturday. If we skip in-workshop testing and move it to the pad overnight, it'll be there on Sunday morning."

“A one day delay. We'll have to accelerate the countdown and skip some on-pad tests as well,” Lyuka noted, “I'll have a revised checklist ready by tomorrow night.”

“It is decided, then. Sequine, make sure to have the extra gyroscope removed by tomorrow evening. The goddesses willing, we shall be launching this one on time, comrades!”

“I still don't like it. We're skipping too many tests, rushing too much,” the supervisor pointed out, “Won't all this be for nothing if the thing explodes on lift-off?”

“Aside from the first and last segments, the booster's perfectly modular. All it needs to do is last until the first two have burned out. That will be more than enough to prove the design. Surely you can make it last for thirty seconds?”

“We still don't have any information about high-altitude conditions and engine burnout. If we want to test the Star Walker mock-up on the next launch, we really should consider-”

“Extra testing would be nice, but after the initial boost phase finishes we will have at least a few minutes to improvise our emergencies,” the Director dismissed Lyuka's protests, “You can't improvise your way out from an explosion.”

“True,” Lyuka admitted, “But I still wouldn't want to be the first pony to ride on that thing.”

On the other side of the complex, the first such candidate was still lying in her hospital bed. Staring at the ceiling and the rows of empty beds all day long, Cherry has had plenty of time to think. Ever since that training accident, in fact, she had been spending far more time withdrawn to that strange place behind her eyes than ever before.

Not that it was the only thing she did, of course. She had been graced with ample visits, starting with Geist and continuing on to include almost everypony on the Cosmodrome; Some fervently apologized for every rushed and skipped test they had ever made, others simply wished her to get better, and all came bearing gifts.

Groaning, Cherry looked sideways at the massive pile of boxes laid there. Flowers, chocolates, even a few cakes... she felt slightly sick as she looked at it now. It was all good, very very good, but despite the best attempts from the nurses to stop her, she had eaten so much she doubted she'd ever fly again. The 'Cape' was home to approximately two hundred ponies, and seemingly every last one could cook.

With a now-familiar ring at the door, Cherry heard another pony enter. Silently wondering what this one was bringing, and how much of it she'd have to eat to demonstrate her satisfaction, she turned around to see none other than her greatest enemy, Professor Redstone. The unassuming pale-yellow unicorn was trying to look innocent as he stood in the doorway, his comically large glasses and omnipresent saddlebags doing their best to conceal his true nature.

Cherry's eyes could see beyond such simple measures, however, and glimpse at the pure evil hidden deep inside. It was remarkable, really, how such a friendly-looking village pony could be the biggest single threat to the denizens of Equestria. As the Professor gave her a seemingly-casual, but in fact absolutely evil (in some way or another, at least) wave, Cherry steadied herself for a confrontation with this archfiend.

"Hi, Cherry! I was just coming back from lunch and figured I would stop by," he shouted as he approached. Her ears jumped to attention. Even his voice was evil – that thick Stutegart accent could not have possibly originated from anything but administrating secret slave camps in the east, or possibly running an illegal weapons plant. Or whatever it was these crazy Stutegart ponies did.

"I would have brought you something, but came late and tech-ponies had already cleared out salad bar. You would not believe how much these engineers eat. They leave only crumbs for poor mathematician!", he continued, smiling as Cherry's eyes drilled into him. *A likely story*, she thought sarcastically.

"Anyway, I am here now, and was wondering how you are doing," he said, arriving to the side of her bed.

He probably spiked the hospital's water or something, and wants to know if I'm dying yet. Why else would he care about my health?

"I'm fine."

Redstone nodded, and, with that evil smile still on his face, reached back into his saddlebags:

“That is good. I know it must be as boring as all hay down here, so I brought you some light reading to do. Figured you might want to catch up on this, as it will be only thing keeping you alive up there.”

Finding the book, he took it out and dropped it on Cherry's bedsheets. It was a thick dusty tome, titled 'The Beauty of the Oblique Ellipse: A short introduction to all things orbital'.

“One of my favourites!”, he pridefully gleamed.

So that's your game, eh? To corrupt me with more of your dark magicks. Well, I'll have none of it!

“Uh, thanks, Professor. I'll put it on the list.”

Nodding in satisfaction as he looked over the two tall stacks of books beside Cherry's bed, he added, “Good to see you working your way through those. Looks like we will have plenty to go over together once you are back on four hooves, yes?”

Cherry stopped smiling. Uh oh. He had actually expected her to read all those books? During her brief stay in the hospital, she had already managed to forget what little she had learnt so far, and he was expecting her to know *more*?

“Anyway, I am afraid I still have some ballistics equations to finish off, so I will have to leave you to your revisions. And remember, a question a day keeps ol' Redstone away!”

And with a burst of definitely-evil laughter, he was gone. Cherry waited long enough to make sure he definitely wasn't coming back, then resolutely tossed the book on one of the piles. Silly professor.

As she pulled in the blankets tighter, however, a niggling feeling remained in the back of her head. She tried to dismiss it as some more of Redstone's trickery, perhaps some subliminal hypnosis or something, but it only intensified.

She turned around again, but couldn't shake the feeling out of her brain. She tried stuffing her head deep into the pillow, covering up her ears with

the blanket. Nothing seemed to help, however, and the Professor's words kept repeating themselves in her head:

"...it will be only thing keeping you alive up there!"

It wasn't true at all. She knew that. The mission plans were rather clear; All orbital manoeuvres were to be pre-computed back on the ground (probably by Redstone himself, Cherry scoffed). She wouldn't have to do anything more than simply open the envelope, read out the correct set of numbers, and punch them into the control unit. Plus, if that crazy electromechanics pony ever got off her lazy flank, even that would be automated. In either case, there'd never be any need for her to calculate orbital parameters herself; Outside of Redstone's chalk-encrusted lecture hall, obviously.

Then again. She looked around the long hospital room, and at her own body, which still lay pale from her bout with hypothermia. Cherry remembered the sheer and utter helplessness very well. That certainly hadn't been in the mission plan. And if even a short training scenario could go so awry, what about a real mission? If a circuit died, if something went wrong, she'd have nothing but herself and these equations to rely on; There'd be no rescue party coming in high orbit, and she'd just keep floating in that tin can, never coming home.

Exclaiming in frustration, Cherry finally gave up and grabbed the book from the pile. She examined its covers with severe scepticism. No book with the word 'short' in the title ought to be thicker than her leg.

Turning to the first page, she was immediately confronted by paragraphs and paragraphs of imposing and densely-packed microscopic text. Why didn't these physics books ever have pretty pictures? Or even just an editor? It didn't matter how stupidly written the book was, though. Not anymore. She wouldn't be that helpless again, no matter how many byzantine equations tried to stop her.

A few hours later, after the rest of the day's shortened shift had finished, Zvezda and the rest of her section returned to Stable IV. For once, they were tired slightly below what was considered 'average' around this crazy place.

The canteen was yet another dreary room of rough and unpainted concrete that seemed to be so prevalent about the entire complex. Zvezda had never seen such a type of construction before, and she was quite sure she didn't want to ever again. How they had come about in the first place still remained a mystery.

Loading an extra helping of apple pie on her plate, Terra was the first to speak up:

"Anyway, I was wondering, you know how we have that huge meeting hall over in Stable II? We should totally hold a get-together there on Sunday. I mean, you've all seen how *huge* that projection screen is."

"You're right. It's gonna be a pleasant break from all this work," Sara joined in.

"Don't you think the Director will mind, though?"

"Look, Sunday afternoon, that huge joke of a rocket will shoot off into the sky. Either it crashes and burns, in which case she'll lock herself inside her office and sulk for the next week, or it works, in which case she'll be so happy she'll nod to anything," Terra explained her battle plan, "Either way, come evening there won't be anypony around to stop us."

"That hall's pretty huge, though," Blues wondered aloud, "Maybe we can invite the rest of the crew too?"

"Hey, we can invite Cherry too! I'm sure she'll want to leave the hospital!", Sara piped up. Zvezda paused at the suggestion, but said nothing. Though the mare got on her nerves, she seemed pretty popular with the other ponies, so what was the problem? She could tolerate her, at the very least.

"Hey, the more the merrier," Terra announced between bites of her pie, "If we invite enough ponies, maybe we'll actually hit on someone who knows how to work the video projector!"

This prompted a round of laughter around the table, which Terra immediately followed up with a worried look: "No pony invite those woollen hat wearing ponies, though. They freak me out."

"Yeah, what's the deal with them? And all those 'security' stallions in black coats?"

"No idea," Sara shrugged, "They seem to have been here, since, well, ever. Did they build the place?"

"The other day, I tried going out for a walk behind the eastern labs," Zvezda related, "Out of nowhere, this huge stallion calling himself 'The Commissar' appears, and starts threatening me to back away in this completely ridiculous accent. I didn't know whether to run away or collapse laughing."

"Oh yeah, that one! I know him! I've been seeing him talk to the Director. And follow her about," Blues interjected, "As in, a lot."

"A lot a lot?" Sara winked, and the present ponies giggled.

"No idea. But they do seem to know each other quite well."

"I mean, they don't even dine with us regular ponies," Terra continued thinking aloud, "And their quarters are in an unmarked building on the other side of the site."

"There does seem to be an awful lot of this cloak-and-dagger stuff going on here," Zvezda noted, "Like why all the head ponies never reveal us their name. Not even our supervisor told us hers!"

Terra nodded, "Or why the Director felt the need to lie on all our contracts. There's no 'weather research' going on here at all!"

"Eh, you never know," Blues spoke up, turning back to look at her wings, "Maybe something special happens if you send a pegasus up far enough. Like controlling half of Equestria's weather at once or something."

"Or maybe they just don't know, and want to find out what happens," Sara pointed out, "I mean, it's a Bureau of Atmospheric *Experimentation* after all. And they are sending a pegasus up there, instead of, say, a unicorn, who'd be far more useful if this was just about rockets."

"I don't know, Sara," Zvezda played idly with the last leaf on her plate, "The Director sure seems to care about her rockets an awful lot."

“Yeah,” Terra began, “She seems to care an awful about getting them as *long* and *rigid* as possible. I'm telling you, that mare has *issues*.”

“Well, of course she's getting frustrated! All these premature detonations...”

A few more jokes about the decidedly symbolic shape of the Director's designs later, the construction crews bid each other farewell and retreated to their bunks. Churning around in her bed, thinking about these dumb jokes, Zvezda idly began pondering how the future generations of ponies would regard their work. Would it rank amongst the first steam locomotive, the first weather factory, the Royal Palace?

A smile on her face, Zvezda haughtily imagined her photo printed in some boring history book a hundred years from now, a tiny portrait with a short explanatory sentence underneath. It was certainly interesting to think about. Even assuming she wasn't forgotten outright, all her personality, quirks, ambitions and dreams, would first get badly misremembered, then mercilessly compressed into a few short words, then attributed to some other pony.

Hopefully, they would at least manage to spell her name right.

Chapter 5

Minus Ten and Counting

Somewhat nervous the entire workshop was watching her, Zvezda nevertheless grasped the welding torch with her mouth and pushed its long electrode against the metal hull of the rocket. Confident everything was prepared, she readied her foreleg on the small control pad that lay on the floor, then slowly increased pressure on it.

The torch sprang to life, electric current beginning to flow from the wall socket, into the electrode, through the metal shell of the rocket, then returning through an affixed clamp. Sparks started flying everywhere, and Zvezda was again very thankful for her darkened goggles. Smoothly running the torch alongside the length of the seam, she slowly moved her head inwards to keep the electrode's tip pushed up against the metal as the rod consumed itself.

Finally, the seam was complete, and amidst loud cheers, Zvezda lifted her leg off the pressure pad and took a step back to inspect it. No bubbles, no oxidation, filler evenly spread. Finding that acceptable, she spat the torch back on the ground and turned around victoriously. The entire workshop sprang into celebration, hooves impacting the concrete floor while the supervisor began singing a rather off-key rendition of the *Ballad of the Metalpony*.

As Sara, Blues, and Terra rushed forward from the audience to congratulate her on a job well done, Zvezda allowed a confident smile to creep up on her face. Unless the Director suddenly managed to pull out new rocket parts out of nowhere, this would be the last weld she'd make for an entire month. The balloon back to Manehattan would arrive on Monday, and she'd finally get to spend her fat paycheck. There was still some paperwork to finish off, but for now, party!

Having finished butchering the old metalworkers' melody, the supervisor cleared her throat and let the workshop fall silent:

"I must admit, team, when I first saw that big pile of components back in Stable VI last week, my first thought was, 'There is no way in hay we will

ever put that together on time'. But, as the days went on and I saw you put your skills to practice, I slowly grew more and more confident. Though we've hit some setbacks along the way, you ponies soldiered on through them and proved me wrong. I salute you."

The assembled crews began fervently clapping their hooves against the ground again, but the supervisor quietened them and continued:

"What you are doing here is something amazing. Something never before attempted by pony hooves. Though coming from common backgrounds, you've nevertheless managed to pick up revolutionary assembly methods, apply them to problems never before solved, and built something, well, magical."

Another applause, another silencing:

"Although you've all done a great job, there is one pony in particular I must thank. Would you be so kind and come up next to me, Sara?"

Gasping with surprise, Sara looked around to her friends. Seeing them smile back, she uncertainly made her way up to the supervisor's side.

"Sara, your unyielding dedication to the project is something that amazed even me. No matter how many unexpected problems there were, how impolitely we asked; You were always willing to do your best. Therefore-", the supervisor paused for dramatic effect, "-In honour of your efforts, we are dedicating this rocket to you!"

On command, two unicorns levitated a small plaque up to the hull, where it was welded to the metal by a prepared pegasus. The small sign read:

"Core cluster sounding vehicle (rev24) – Unit VIII ('Sara Goldhooves')"

"Here's a second copy to put up on the wall and show off with," the supervisor winked, handing the plaque to Sara, before turning back to the rest of the workshop's crew: "Now, I know you all deserve it, so there's a small buffet waiting for you in Stable IV. I was going to hold it right here, but the Director insisted that drunken ponies and tin cans stuffed with high explosive don't mix.

Anyway; Vehicle Assembly Crew, dismissed!"

As they left the workshop, Zvezda turned around for one last look at their creation. It seemed... disappointingly small. Considering all the effort and overtime they had put in, all their sweat and tears and waking nights, the final rocket wasn't actually all that big; Perhaps six pony-lengths from puffy nosecone to stubby nozzle, and two pony-heights in diameter. Still, it was much bigger than any of those previous fireworks shown in the archive footage, so Zvezda was satisfied.

Turning around again to catch up to her friends, she caught sight of the hat-wearing ponies approaching, presumably to tow the rocket to the launchpad. Not particularly wanting to be left alone with them – doubly so, given the quickly disappearing daylight – she galloped off towards Stable IV.

“Three, two, one, fire!”

Nothing happened.

Exclaiming in frustration, Lyuka took her hooves off the firing console and ran back to the launchpad. The sun had long since gone down, and the launch crew were left trying to work by the weak light of several lamps that lay strewn about the site.

The rocket was still a way from the pad, but it was approaching rapidly, and Lyuka really did not want to have another delay. Trotting up to the pad base, she complained:

“We *could* have just used a fuse to light the thing, but no, the Director wanted a nice and shiny electric igniter!”

Her horn glowing as she levitated bundles of cabling and capacitor jars around, Sequine replied:

“Other designs much smaller. This one too big. Needs electrics.”

“I know, I know,” Lyuka sighed, “But it just seems that with each launch, we're using five new groundbreaking technologies that had never before seen the light of day. No wonder it all keeps blowing up.”

The air around them clicked as Sequine repeatedly tested new connections, broke them up, then spun the components around again for a new attempt.

“First, weak metal. Then, shaking itself apart. Last time, lack of stabilization,” Sequine casually recounted whilst levitating hundreds of individual components in a large spinning sphere above her head, “Should be good now.”

“Yeah, right. Everytime we're sure we got absolutely everything perfect this time around, a new problem appears out of thin air and the stupid thing just explodes. It's just, no matter how much we try, this whole thing just seems *too hard* for ponies, you know?”

“Not rocket. Igniter. Rocket will blow up. Igniter works,” Sequine clarified, gently lowering the ball of tightly knit components into a prepared shallow pit which would serve as the base of the launchpad.

Rolling her eyes, Lyuka trotted off back towards the firing console. Pressing the ignition key, she jumped back as a bright shower of sparks momentarily blinded her.

While her vision recovered, she considered the strange pony's words. *Rocket will blow up. Igniter works.* Judging by their track record, she was probably right. Depressed, Lyuka tried the igniter again to ensure it wasn't a fluke, making sure to shield her eyes this time around.

Satisfied the ignition system was reliable, Lyuka inspected the strange unicorn. She was just standing there, utterly immobile, a faint dumb grin of satisfaction on her face.

“Aren't you *ever* depressed?” she shot off in frustration.

“Why? Director buys room, food, all wires and relays I want. Is nice here.”

Some ponies had very low expectations. Shaking her head, Lyuka powered down the console, then crossed another line off her checklist.

Cherry woke up, bathed in cold sweat. A second of terrified confusion followed as she scanned the alien surroundings; Then her brain switched

back on. She had finally managed to persuade the nurses to let her out of the hospital, on the condition she stays in her quarters the entire time until full recovery.

Whether it was the new surroundings or the upcoming test launch, this was the third time she had been torn from her sleep this night.

It was always the same dream: Sitting inside that small capsule, all suited and connected up, the countdown rolling along normally... then the warning lights would flare up. She would pound on the entry hatch, repeatedly hit the abort and ejection buttons, and nothing would happen. She'd spot Geist behind the small round window, working furiously to get her out of there. Then, somepony'd shout "Fire! Fire on the pad!", the cabin would fill with choking white smoke, and a tremendous explosion would jar her awake.

Getting off her bed to get a jug of water from her fridge, Cherry thought about it. All this worrying was stupid. All those attempts were test flights. Test flights are supposed to blow up, so that the real thing doesn't.

Then again, that hated part of her brain would say, The Director has had a perfect 100% failure rate. She's skipping tests, rushing at every opportunity, and hasn't yet begun cutting the metal for the capsule you'll go up in. Even the training programme is a deathtrap!

Sipping on the refreshing cool water, she tried to make counterarguments. The only convincing one she could come up with revolved around the upcoming launch. And as rumour had it, even the ever-optimistic Director was expecting that to fail spectacularly.

Throwing the rest of the jug's contents into her face, Cherry puffed. There was no way she was getting any more sleep tonight. Looking around to glance at the clock, she noticed it was still three in the morning. Plenty of time, then.

Lighting the small lamp on her desk, Cherry got some paper and put it on the table. Grasping the pen with her mouth, she stood immobile for a while as her brain arranged itself, then began:

"Dear ma, pa,

I'm sorry I didn't write since leaving the Academy. I know you must be worried, and I wish I've done this earlier. I know you still don't approve of my decision, but I don't care anymore. I just want us to be family again.

Life's been busy here at the facility (I don't think I'm allowed to even write its codename here). Training, tests, more training, more tests – they are big on tests, these ponies. I never even dreamed of doing something like this, but that makes it all the more exciting! They are doing some incredible things here, and I just wish you could come and see your Cheery in the middle of it all. Maybe sometime in the future, when security isn't so tough.

How is little Rosie? Has she started flying yet? Tell her big sister's missing her so much!

Anyway, I just wanted to you know everything's going well, and your little filly is safe and sound.

Lots of love,

Cherry

She read the letter over again. Yeah, that would do.

Turning the light back off, she left the paper on the desk and returned to bed. Maybe she'd send it off in the morning. *Then again*, she thought, remembering her father's last words as he slammed the door on her. Maybe she wouldn't.

Tumbling into the kitchen, Zvezda uncertainly veered from side to side as she tried to find the sink. Some crazy pony had somehow smuggled several barrels of apple cider onto the Cosmodrome, and now the entire vehicle assembly team was paying the price.

Synapses firing slowly, it took her about ten seconds to realize the light was on. It took her a further ten seconds to notice the busy pink pegasus in the middle of the kitchen, furiously working on something.

“Te- Terra?” Zvezda slowly got out, “What are you doing?”

“Preparing some popcorn, duh,” came the incessant reply.

“Popcorn?”

“Well, yes. Think about it, it's gonna be a great fireworks show. And all the assembly crews get their paychecks tomorrow. If I show up there selling popcorn, I'll become a billionaire overnight!”

“Sounds good,” Zvezda blinked slowly, “Mind if I join in? I wouldn't mind having a million or two.”

“Sure, no problem. Just find me some apples. Can't make corn without apples.”

It took several further seconds before the web of logic completed itself in Zvezda's mind:

“Apples? Sure. Just wait a bit, I need to use the sink.”

The Chief Director paced around her quarters, stealing the occasional frightened glance at the massive schematic pinned up on the wall, then turning away quickly before her eyes have had the time to spot any glaring mistakes. She was convinced there were still at least a dozen of them, just lying there, silently laughing at her. But it was all too late to fix them now.

As she went through this routine, she mumbled to herself.

“The real thing'll have a redundant control system; So it won't matter if this one veers off course and explodes.”

“The nozzle is just an experimental design, we can always go back to the old model. Granted, that one blew up on the pad, but we can work around that.”

“We've remixed the new fuel grain, so it shouldn't ignite prematurely anymore. There's nothing that can go wrong.”

“It's just a simple test of the modular booster rings. If they work, it doesn't matter if everything else crashes and burns.”

“It doesn't matter.”

She paused in her tracks for a while. Self-deception was a surprisingly difficult thing to pull off consciously.

Geist turned peacefully in his bed. His mind still full of ideas for the Starwalker simulator, it wasn't too surprising that his dreams revolved around galloping back and forth through a long corridor, constantly flipping random switches on the walls. Every so often, candy would drop from a trapdoor in the ceiling, and he'd stop to devour it all before running back to the switches.

Mumbling something incomprehensible, he snored once, then carried on as before, a wide unworried smile on his face.

The time was finally here. The rocket towered proud on the launching platform, having been painstakingly erected there from the horizontal position by teams of hung-over and sleep-deprived pegasi early in the morning.

Circling around it for what must have been the thousandth time today, Lyuka scrutinized every last square inch of the vehicle's hull. Both above and below her, her teams of pegasi were doing the same, or at least trying to.

Trying to concentrate on the rough metal skin, Lyuka noticed it was slowly sliding out of focus. She shook her head and looked at it again. Slightly better. Wiping the sweat off her forehead, she idly wondered when was the last time she drank something. Probably yesterday lunch.

"Boss, please! This thing isn't getting any better the more we stare at it!", a blue pegasus above her pleaded, hovering uncertainly above Lyuka.

"Have you checked the nose seal yet?", she snapped back.

"Yes! Five times now! Five! I know this is our biggest rocket yet, but that doesn't-"

"Well, go check it again!"

The pegasus stopped, considered her words for a few seconds, then simply gave her Equestria's most flippant salute and flew off towards the rocket's tip. Turning to the towering vehicle again, Lyuka suddenly noticed a single grain of sand had become embedded inside the tiny separation ring between two protective plates. Blowing at it, Lyuka was satisfied to see it disappear.

Suddenly, the rocket emitted a terrible creaking noise. Shocked by its volume, it took Lyuka a few moments to remember she was still in the air. Quickly levelling out before she hit the ground, she demanded:

"What was that? What? Report, now!"

A tired Wilhelmina sounded back from the ground:

"It's just the rocket, L! The metal's expanding in the heat!"

Oh yeah. That was the third time today, wasn't it? Lyuka re-focused her eyes again. Silly brain, getting tired so quickly.

"Don't you think we've done enough testing? If we leave it any longer, the batteries will run out and we'll have to swap in new ones! Again!"

"The batteries!", Lyuka suddenly screamed. Rapidly ascending towards the vehicle's top, Lyuka uncovered a small access panel at the base of the nosecone. Quickly stamping the small button hidden underneath it, she verified this lit up the small lightbulb positioned nearby. She was just about to let out a sigh of relief, when Wilhelmina interrupted:

"L, that is enough! By the authority of Chief Director, I hereby declare the pre-launch hold complete! Crews, final report!"

"But what about the-"

"Now!", the Director screamed. Lyuka was about to object, then one of her subordinates shoved her hoof into her open mouth. Too tired to resist, she simply resigned herself to hovering idly.

"Manoeuvring system pressurized!", shouted a pegasus from the opposite side of the nosecone.

"Confirming no leaks in segment joints!"

“Roll program loaded.”

“Let's go already, then! Everybody, vacate the pad!”, the Director commanded, herself proceeding to gallop away from the rocket.

“Aerial photography crews, in position!”, the pegasus covering Lyuka's mouth voiced the order for her. Saluting, Lyuka's team of pegasi flew off upwards. With an evil glare to the assistant director, the subordinate removed her hoof, then followed them off.

“Film crew, start rolling!”, the Director commanded. A pair of earth ponies stationed beside the launch console began playing with their large device.

Lyuka took one last look around. The launch pad stood alone in the middle of the desert, a fair distance from the rest of the Cosmodrome. The only physical connection between the two was a pair of rail tracks, running from the massive iron gates of Stable VII to the firing pit.

In a large semicircle around the pad, the entire population of the Cape had gathered for the big event. She spotted that two enterprising ponies had opened up a stand offering salted popcorn, but they didn't seem to be getting much business. The mere sight of salt suddenly made Lyuka realize just how thirsty she was.

What ponies weren't in the semicircle lay positioned at various strategic positions in the desert and the sky, intently watching the vehicle with telescopes and cameras. If – *when*, Lyuka corrected herself – the rocket failed, their photographs and observations would provide valuable data. Hopefully.

Glancing for one last time at the unpainted metal grey cylinder of a rocket, Lyuka gritted her teeth and landed in the sand next to the Director.

“Any last words, Chief Designer?” she asked sarcastically, remembering those hopeful long-winded speeches that had been held before prior launches, whose idealism had always rang so bitter after the inevitable failure.

“Just get on with it,” she snapped. And with a nod to the launch announcer, it was off.

“Sounding rocket eight, the Pad Führer has given final confirmation,” the pony spoke through her megaphone. Lyuka could see Wilhelmina grit her teeth at the nickname, but not say anything; Presumably not wanting to delay a moment longer.

“Commencing launch in T minus thirty seconds.”

Readying her hooves on the ignition console, the Director began inhaling deeply.

“T minus twenty five seconds.”

With a dim glow surrounding her horn, Sequine disconnected the last few cables from the nosecone and levitated them outside the blast radius.

“T minus twenty seconds, guidance is internal.”

A green bulb lit up on the firing console.

“T minus fifteen seconds. Ignition capacitors confirmed charged.”

The noon sun had been ceaselessly boring down on everypony the entire day, unbearable in its intensity almost the entire time. The sand was scorching her green skin. Even so, Lyuka began shivering with cold.

“T minus ten.”

They had skipped too many tests. Rushed too fast. It was all too clear to Lyuka.

“Eight.”

There was nothing left to do now. Nothing but pray. Judging by the sheer number of silently praying spectators, Celestia would probably be getting a headache right about now.

“Seven.”

The anticipation was unbearable.

“Six.”

How long would this one last? Five seconds, ten?

“Five.”

“Four.”

“Three.”

Screaming in a sudden release of all her pent up frustration and rage, the Director slammed the ignition switch with her face. At the last millisecond, Lyuka remembered herself and tightly sealed her eyes.

Even then, the effect was incapacitating. A flash so bright, it penetrated her eyelids. A blast of hot air rushing outwards, showering her in sand. A harsh roar of pure white noise, deafening her. Even the very air around them seemed to be shaking itself apart.

Despite the omnipresent assault on the senses, Lyuka smiled. At least this particular failure would be far more spectacular than ever before.

Blinking rapidly to get her vision back, Lyuka observed the aftermath. The launchpad was simply gone, the ignition device and support cranes turned into molten slag. The surviving cables were on fire, their thick plastic insulation releasing poisonous black smoke. The service crews would have their work cut out for them.

That was for later, however. She quickly looked upwards. Somehow and against all expectation, the vehicle was rising fast, riding atop a mighty ball of searing white fire and thick black smoke. Once upon a time, the sight would fill her heart with excitement. Now, it was just exhausted pessimism.

“T plus five seconds! Begin roll.”

Unbelievably slowly, the vehicle began turning to its side, almost royal in its fiery grace. Stealing a quick glance at Sequine, Lyuka wasn't surprised to see an impossibly smug grin on her face. The one she always had.

“T plus ten seconds. Complete roll.”

Despite the announcement, the rocket kept turning. Five degrees past the target, ten. Based on previous flights' bitterly earned experience, past fifteen off the flightpath meant a fatal tumble and catastrophic structural failure.

There we go, then. Should've kept that backup gyro. I hope you're happy, Director.

Yet, Sequine's smug grin remained. Dumb crazy pony.

"T plus fifteen. First segment burnout, second segment ignition."

With another bright flash, the rocket's exhaust flared, and the vehicle immediately jumped back to its intended heading. The grin became a singularity of smugness.

"T plus twenty. Flight path is nominal, vehicle altitude should be past two thousand strides."

The rocket quickly shrank in the clear blue sky. Soon, all that remained visible was a glistening speck in the desert sun, and an exhaust plume of black smoke. The sight reminded Lyuka of their previous, smaller, attempts. The ones that exploded.

"T plus twenty five. Mach one."

A faint thunder could be heard. The plume of black smoke behind the rocket kept expanding rapidly, and now completely obscured the rocket. A few seconds later, it flared again.

"T plus thirty. Second segment burnout."

The Director mumbled in relief. At least the test wouldn't be a total failure now. Still, nopony took their eyes off the rocket. All wondered: How high would it go?

The roar was just a faint whisper now, the exhaust plume a tiny black circle in the massive azure sky. Lyuka raised one of her eyebrows. Everything was failing so badly, not even the explosion managed to arrive on time.

"T plus fifty, approaching max Q. Mach two! I don't believe this!"

The crowd began cheering, the scattered "You go girl!" and "Hay yes!" barely audible amidst the stampeding hooves. A minute of powered flight would be something unprecedented. Lyuka just stared at the faint dot.

What do explosions do on their time off anyway? Have a cup of tea? Hurry up, mister!

"Holy horseshoes, sixty seconds! We got it! We finally-"

A distant pop, and the black plume went up in a flash of light.

"Max Q," the launch announcer stated emptily. A sudden silence fell upon the crowd, leaving Lyuka's ears ringing.

She dimly stared at the slowly expanding cloud of debris and black smoke, nodding in quiet resignation.

Took you long enough. Almost had me convinced, mister! Show up on schedule the next time, will you?

Shaking the hot sand off her skin, she turned towards the Director.

"Told you. Let's go pack."

Will did not respond. Noticing something strange, Lyuka shook her head again and blinked repeatedly.

The Director was indeed smiling. Looking around in confusion, she turned around to Redstone. He was also smiling. Looking at the assembled work crews, they all had that same dumb expression on their faces. The vehicle assembly teams, the fuel grain specialists, the ground crews, every last pony apparently mad.

Lyuka scoffed. Did everypony simultaneously suffer a sudden catastrophic brain failure from heatstroke? Explosions were bad, not good!

A lone pony somewhere in the distance began stomping her hooves against the ground. Gradually, more and more ponies joined in, until the lone clap grew to a deafening applause that almost rivaled the original roar of the engine.

The same engine that's now falling towards the ground in a billion tiny pieces. Has everypony gone insane?

She turned back to Will in bewilderment. She looked at that dumb smile again. Their eyes met for a second, and suddenly she knew. She understood.

Looking up towards the sky, Lyuka considered the slowly expanding ball of black smoke. Yes, in the grand scheme of things, it was utterly laughable. Whole months of back-breaking laborious efforts from over a hundred ponies, endless nights spent correcting schematics and rewiring faulty connections, literal rivers of coffee, all spent for a mere sixty seconds of powered flight.

On the other hoof, who cared? Lowering her gaze, Lyuka once again scanned the crowds of cheering and applauding ponies. They had been born peasants. Librarians. A few as pampered nobles. Ponies that had expected nothing more out of life than a steady supply of food, a nice family, and hopefully enough money to buy a few shiny trinkets. Perhaps a few would go on and become engineers, maybe even building a bridge or a skyscraper that would stand for a hundred years, leaving their mark on history that way.

And yet, here they were. With nothing but their hooves, they had managed to construct a mechanical beast that had broken the speed of sound in twenty five seconds flat, that had soared three times above the limit of the highest flying pegasus, that far exceeded any show of magic. Their little tin can had just single-handedly broken every single flight record in the entire history of Equestria. And it was just a prototype.

Lyuka compared a few numbers, ran a quick mental calculation, then, after double-checking, smiled back at the Director. Their design was perfect. It only broke up because it was *too* good; The fuel mix must have been even better than they had thought. In either case, the real rocket, carrying a payload and extra stages, would be far heavier, not reaching half this speed; Not before it got high enough for the air pressure to drop to near-nothing. It wouldn't break up; It would work.

She nodded to herself. They had a long way to go yet. Clustering, staging, navigation, re-entry, recovery, the list was too long to count. But they've truly made their first step.

In the skies above, Cherry fluttered about in excitement as she watched the cloud of burning metal drop back from the heavens.

She ought to be worrying, screaming helplessly, grimly pondering her own future fate. She might end up in such a cloud, after all. She should be monologuing in angst right now!

And yet she wasn't. Despite some parts of her brain trying to scream at her, Cherry wasn't paying any attention to them. Why should she? Everything had gone wrong for this rocket. The assembly crews were inexperienced, the fuel mix experimental, half the control unit got cut out. And yet it managed to fly faster than the world's best pegasus. By the time it was her turn, Zvezda and Geist and everypony else would have gotten it just right.

Or maybe this one was just dumb luck.

Shut up, brain.

Chapter 6

Surprise!

Weeks passed. The development teams enjoyed a pleasant vacation away from the Cosmodrome, coming back fresh and ready for a new schedule. Whether it had been luck or not, the unexpected – however slight – success of the last launch had sent morale soaring everywhere, and the work crews returned to the Cape genuinely excited for their next assignments.

Which was good, for this next attempt would be the most significant yet; Not only was the unprecedented technique of clustering to be tried in practice for the first time, it would also be the first launch with a payload – a prototype shell of the first-generation Starwalker, intended to put some of the Director's ideas about heatshield design into practice.

That is, assuming they could ever build the stupid thing in the first place.

With a deep sigh, Wilhelmina surveyed the array of test articles that lay prepared in the middle of the lab, suspended from the ceiling via thick steel cables; Each a five-by-five plate of thick rough metal; Each of a slightly different colour and texture; And each last one badly burnt and half-molten, with large gaping holes where the metal had completely wasted away.

With the Commissar menacingly standing to attention at her side, the Director faced down the head metallurgist, looking at her over the top of her spectacles. The brown unicorn stood her ground, but it was plenty obvious she was afraid.

“You told me you would have this alloy ready for use in half a year. That was eight months ago,” Will slowly began, choosing her words and body language carefully for maximum impact, “Our entire schedule depends on finalizing the heatshield composition as soon as possible. Without it, the entire Star Walker project is on indefinite hold. Now, what do you have to say for yourself?”

The terrified unicorn could barely speak, but a provoked assistant saved her:

"The requirements you gave us are insane! They call for ninety five percent purity! Ninety five! That's utter madness!"

"Well, I suggest you try something new, then. And quickly. I allocated a significant portion of our budget to your lab, provided all the expensive beryllium and aluminium you asked for, but now I'm expecting results."

"What do you think we've been doing all these months? Look, there is only one alloy known to ponykind that even approaches your ridiculous requirements, and guess what? The same properties that make it resistant to heat, also make it extremely difficult to produce! We've spent half a year trying to figure out a way of separating the chlorine out with magic; We've tried a dozen different methods, and unless there was a revolution in metalworking while we weren't looking, we're never going to get this alloy purified fully. The technology just doesn't exist!"

"Well, what do we suggest we do, then?" Wilhelmina insisted, "The equations are clear. Unless your heatshield can withstand four thousand degrees peak and three thousand degrees sustained, for five minutes, then our brave equenaut's going to end up as cinders. It's as simple as that."

"And unless this alloy's ninety five percent pure, it can't do that!"

The two mares stared each other down; Each behest by the laws of nature, neither able to back down.

"There is... one other way," the chief scientist interjected, breaking up the staring contest as all eyes snapped to her. Judging by her slow, careful tone, the Director got the feeling she wouldn't like this suggestion.

"We... could, theoretically, fulfil those requirements at our present eighty percent purity... *if* we made the shell thicker. Instead of one and a half inch, use two and a half. It would still ablate dangerously during peak load, but with the extra material it should be able to hold."

Wilhelmina's hunch rang true. She didn't like the news. Especially after a brief mental calculation.

"So you want me to cut *half a tonne* of mass from the capsule?" she incredulously began. The rocket design already teetered at the limits of the impossible as it was, and adding another half a tonne of payload was

simply out of consideration. Hence, if the heatshield suddenly got heavier, the other systems would have to become lighter, by an equal amount.

The head scientist shrugged. Will stared at her for a few seconds more. It was bad, but it was their only option. Make the avionics and life support half a tonne lighter; Or give up.

“Fine,” she snapped bitterly, turning around for the door. What else was going to go wrong with this infernal capsule?

“Velocity, Twenty seven thousand hooves per second. Altitude, one hundred fifteen miles. You are go for second orbit.”

Shuffling about in the confined space of the simulator, Cherry very carefully began pulling at a cord hanging from a metal box above her head, taking great pains not to rip it off. The cardboard ceiling of the mock-up bent inwards dangerously, but did not collapse. Inch by inch, she slowly increased weight on the string, until an audible click of a relay confirmed the system's activation:

“Spacecraft instrumentation visual assistance and guidance system, enabled!”

A single small bulb on the ceiling slowly warmed to life. Privately, the orange pegasus wondered who came up with these ridiculous names.

“Checking bus A,” she announced, squinting her eyes as she tried to observe the dial, “Oh, for Celestia's – Abort test!”

“No can do, cadet! You are floating over a hundred miles above the surface. No aborts there!”, Redstone's resolute voice commanded, speaking from just behind the black curtain that their mock-up used for an entry hatch.

“I know, I know, but just look at this thing! Who thought it was a good idea to put the most important reading on a tiny little dial right next to a huge glowing bulb?” Cherry complained, still in disbelief the Chief Designer had managed to miss such a glaring error.

Then again, she had seen the blueprints for herself too. Some things just weren't obvious until they were tried in practice.

“Well, somepony did, and now you have to deal with result!”

“We are going to change this for the real thing, right?” she asked, trying to figure out a way to get the reading. Without the bulb, the capsule was too dark, and with it, the glass cover of the dial simply reflected its glare, completely obscuring the measuring needle, “I mean, I literally can't see what it says. Am I supposed to just guess?”

“Geist, write it down!”, the professor snapped to his side, then turned back to Cherry, “We still continue test, though!”

“While we're at it, I can't actually hit the hatch release. There's a big stupid box in the way. And I'm pretty sure I'll need to open the hatch as some point,” she continued, demonstrating by trying to extend her hind leg, only to be blocked by a large wooden plank that seemed to have no other purpose but to restrict her movements, “What's the point of practising on a mock-up if the real thing's gonna be completely different?”

“You learn improvise! Now get on! Continue procedure!”

In frustration, Cherry kicked a large metal cylinder attached to the side wall; To her surprise, it broke off its loose screws, tipped over, and made an enormous racket as it split its contents of random nuts and bolts all over the capsule's interior, as well as its only occupant. Flinching as a particularly heavy screw hit her on the head, she wondered what the purpose of this particular 'system' was supposed to be.

The ruckus was enough for even the otherwise stoic professor to interrupt the test and poke his head in through the hatch curtains. After briefly scanning the chaos inside, and seeing Cherry covered in assorted metal components, he demanded:

“Good heavens, what page of ops manual are you on? Page twenty says 'Check voltage', not 'Destroy flight computer!'”

“That's not a flight computer, it's a big box of rusty scrap metal! Why is it here?”

“Well, we don't have flight computer. Is not built yet. Is not *designed* yet. So we use mock-up. Good enough, no?”

“No!”, Cherry screamed, rubbing her head, “And what's that thing for, then?” she banged on a wooden box that hung off the ceiling, appearing to have no other purpose but to provide pain whenever she hit her head on it.

“Is oxygen regenerator.”

“No, it's a banana crate! It even says 'bananas' on the side! What kind of simulator is this?”

“Look, Star Walker uses three hundred fifty six separate system, yes? Of those, *two* have reached prototype stage: Hatch handle and cooling fan. We are doing best we can.”

“But what's the point of training in a mock-up if it's nothing like the real thing?”

“Is *supposed* to be psychological test; You alone in dark capsule, suddenly I come up with problem, you must work to fix it. Also test if you memorized control panel yet.”

Cherry scoffed at the plan, “But why should I memorize the controls if they're completely unusable? I'm telling you, this whole thing needs a major redesign!”

As if to punctuate her point, the entire warning panel lit up at once, ablaze with red and yellow bulbs. A few seconds later, the master alarm began ringing. It only took a few moments more before something outside snapped, there was a creaking sound, and the entire front wall of the simulator broke free of its rickety supports and fell outwards, hitting the ground with a loud thud.

Poor Geist, the thought ran through her head as she remembered her favourite insomniac techie, *He worked so hard on this thing. Too bad it's utter rubbish.*

“Well, at least we have learnt something,” Redstone dryly noted, idly looking on as the hangar's panicking tech-ponies began swarming around the mock-up, desperately trying to rescue as much of it as they could before its wood-and-cardboard structure completely disintegrated, “Use more tape next time.”

Standing in her office, Wilhelmina looked at the latest stack of progress reports in disbelief. It seemed as if the entire Cosmodrome was falling apart around her. Messages of disastrous setbacks were coming in from the vehicle assembly teams, propellant mixing plants, the Star Walker complex, even Sequine's electromechanics department. And to add insult to the injury, Lyuka's liquid engine laboratory had gone up in green flames during an experiment. Everything, from the research notes to the prototypes of combustion chambers, had burnt down to the ground; And somehow, the room's atmosphere had gotten replaced with hydrofluoric acid in the process. She didn't think the lab would be usable ever again.

Rolling her eyes over the description of the accident – *Just because liquid halogens are highly reactive does not mean you immediately have to try igniting two tonnes of the stuff!* – Will was suddenly torn away from her paperwork as an exhausted Lyuka crashed open the door to her office, made a small loop in the air, and landed roughly on the red carpet before the Director's desk.

Looking over the frame of her glasses, and noting her frizzy blue mane was still bleached yellow in places from that chlorine fire, Wilhelmina gave her an inquisitive look:

“What is it this time? Did you burn down your new lab already?”

The pegasus dug her head out of the carpet, still breathing rapidly. Eyes wide open, she screamed:

“Worse! It's Celestia! Celestia's on her way here! Right now!”

A stunned silence befell the room; “The... the schedule says-”, Will barely managed to get out before her assistant gathered enough breath again:

“The schedule's a joke! She's making a surprise inspection of the entire facility! She's on her way here *right now!*”

Possible scenarios began running through the Director's mind. Primary approaches, backup plans, contingency scenarios, estimated percentages of success, degrees of failure. One crucial variable was missing.

“How soon?”

“Her vanguard just landed in the main courtyard!”

That collapsed the tree of available options significantly. Nodding in acceptance, she quickly commanded:

“Tell the commissar's stallions to throw together some refreshments in Stable IV. Then fly straight to Five. Make sure Sequine stays in her basement, that the labs look pretty, and that the projection room has the film; As per plan Celestia/Three. Oh, and make yourself presentable – you look awful.”

Checking against a mirror to ensure she was prim, the Director rapidly left the room, leaving the ruffled pegasus in her stead. As she walked through the halls of the administrative bunker, she could plainly see the word had already gotten out; Panicking ponies were rushing through the corridors, dragging out impressive-looking pieces of equipment, carrying records to be shredded, or simply galloping to hide themselves behind locked blast-doors; Those last ones were probably the smartest of the lot.

Emerging through the main door of Stable I, Wilhelmina could see that Celestia's cavalcade was already landing. A few of the golden flying carriages were already on the ground, their armoured crews emerging to secure the perimeter and set up their small orchestra. In the distance behind them, a few last ponies were still running for cover, desperate to not be seen for the entire duration of the visit.

Squinting in the desert sun, the Director inspected the incoming fleet of vehicles. There were at least ten still on the horizon, all approaching rapidly. Either the Princess of the Sun had brought far more guards with her than usual, or she was being accompanied by a royal entourage. In either case, foreboding news.

Seeing the carriages manoeuvre in for final approach, the Director wondered what might have prompted this surprise visit. Perhaps one of the vacationing ponies had talked? The Commissar had done everything in his power to allow only reliable ponies to leave, but even that stallion had his limits.

Regardless, what had happened happened, and a strategy was already developing in the Director's mind. She just needed to smooth-talk the Princess for a few more minutes until she got the details mapped out.

The largest carriage began descending rapidly, the shining figure of their leader already clearly distinguishable. Wilhelmina gulped. Smooth-talking a goddess. Easy.

The landed orchestra began playing the royal fanfare, having timed it so precisely, the crescendo was reached just as the wheels of Celestia's carriage touched down on the desert sand. Even the Director was left impressed by such a degree of co-ordination..

Seeing the carriage rolling up to her, she took a deep bow. The scorching sand was uncomfortable, but this was the ruling goddess of all of Equestria, after all.

The wheels came to a stop, and Wilhelmina saw a shining silver hoof, clad in a brilliant golden slipper, sink slightly into the sand before her.

“How good to see you again, madam Director,” a warm motherly voice spoke from above. Getting back on her hooves, she stared at Celestia's royal figure; Overreaching any mortal pony in height, wings slightly outstretched, her imposing pose was one of power. Yet her eyes and subtle smile spoke deeply of her true nature.

Or at least, what Wilhelmina hoped was her true nature:

“My princess. It is an honour to have our research facility graced by Your presence. Please excuse our unpreparedness, but-”

“It's quite alright. I know my visit was rather unexpected – don't worry about making a bad impression,” Celestia beamed with all the power of the sun, “In my years, I've often seen ponies stretch themselves excessively for a royal visit, preparing huge banquets and so forth. I simply did not want to put such a strain upon you.”

“Most noble decision, my lady,” the Director began, quite sure that wasn't the real reason. She paused as she glanced at the other landing carriages, “And what of your retinue?”

“Oh, just one of my students, and some of her friends that decided to come along. She is a great magician, but is still intrigued by the technical sciences. I thought she'd be most interested by your work here.”

“Of course, your highness. I've ordered for some light refreshments to be assembled, but I fear it might take a while for them to get organized. You must be tired from your journey.”

“Don't worry, Director. In fact, I myself am rather eager to stretch my legs after all that sitting,” she said, again with a wide smile on her face. Privately, Wilhelmina wondered just how much cold calculation lay beneath all those warm gestures.

The remaining carriages landed, and a multicoloured group of six ponies disembarked. One purple and one white unicorn, a pink and an orange earth pony, and two pegasi of blue and yellow. All that was missing was a token male, and the rainbow of political correctness would be complete.

The group excitedly chattered amongst themselves as they walked, flew, or, in the case of the pink pony, hopped up to the Princess. The purple unicorn at their head was looking around, appearing most interested by her surroundings:

“Wow, thanks again for letting us tag along, Princess! I've never seen buildings like this before!”

Celestia surveyed the squat concrete bunkers that littered the area:

“It's just some old royal grounds, Twilight. Centuries ago, we built them here for a magical experiment that needed doing. I must admit, Director, your ponies have done a fine job with the restoration. I never thought I'd see this place live again.”

“Must have been some magic. I can still feel its traces around,” Twilight noted. From her side, the pink pony bounced happily:

“And I can still smell them!”

As the group laughed, the Director gave the pink pony a questioning look. She never knew Celestia kept a court jester. Suddenly, the blue pegasus sniffed, then spoke up:

“Actually, me too. What *is* that funky smell?”

“Ammonia for the perchlorates. Our vats are at full capacity right now.”

“Perchlorates, hmm?” Twilight pondered the word for a while, then snapped to attention, “Wait, aren't those dangerous?”

The Director barely stifled a laugh:

“You will see in no time, miss. Now, are you ready for the grand tour? We will begin with the heart of our complex; Our research labs.”

Celestia discretely turned her head to Twilight, “See? I told you this visit would be educational.”

“*Educational?* Aww heck, nopony told me that!”, an earth pony at the back of the group complained, drawing giggles from the others.

“And nopony certainly told me that there'd be all this *sand* ruffling up my hooves. Oh! I think some got into my hair!”, the group's other unicorn began, a most disdainful look on her face.

“Quiet, gals, I told you both. But you just had to tag along, didn't you?”

“I merely thought a 'royal research facility' would be far more dignified, perchance even staffed with some fine nobility. Instead-”

“Now there, Rarity,” the Princess' soothing voice interrupted, “Don't be so hasty to judge. The Director right here is the first daughter of the esteemed Magnus Brown, are you not, Wilhelmina?”

“Yes..,” Will sighed, always embarrassed when her past was brought up.

“Oh, my,” Rarity began, and quickly trotted up to the Director's side and took a small bow, “My most sincere apologies, countess. I have read all about your family's great past. Isn't your father still the mayor of Zäumberg?”

“We don't really talk much anymore, I'm afraid.”

“Oh, and what a pity it is. Great, great, pity. Say, have you read what happened at the last Landesrat meeting? Such insolence. Why, I could hardly believe it myself! I think Freiherrin Haugwitz was acting most inappropriately, don't you?”

Ugh. This was going to be one long tour.

“Anyway,” Wilhelmina loudly announced as they passed through the bunker's entrance, silencing Rarity's long-winded political tirade, “This is Stable V, where most of our exciting technologies are tested and developed. Though they usually originate from either my or my assistants' desks, it takes teams of specialists and fully equipped laboratories to flesh them out fully.”

“Say, Director,” Twilight – probably the student Celestia had talked about, judging by her sincere interest, as well as lack of participation in the inane chatter taking place further behind – trotted up to her other side, opposite Rarity, “This is all very nice and all, but you still haven't quite explained what you're actually doing here.”

For the briefest millisecond, Wilhelmina stopped in her tracks. She could swear she could feel the Princess' gaze burning a hole in the back of her neck. Resuming her walk and clearing her throat, she began:

“Apologies, I assumed her highness had informed you. Here at the Bureau of Atmospheric Experimentation, our original mission remains the same as ever; Developing revolutionary new methods of large-scale weather and climate manipulation.”

“Hey!”, the blue pegasus shouted, suddenly appearing right over the Director's head, “You brainiacs aren't trying to build some fancy new machine to make all us pegasi jobless bums, are you?”

Laughing nervously, Will continued walking along the corridor, “Of course not! We are simply trying to come up with more efficient and centralized methods using technological approaches. Natural ability remains important-”

“Damn right!”, the pegasus hollered.

“-But there are some distinct physical limits to it. For one, no matter how great a flier you are, it is quite impossible to climb above a certain altitude using only wingpower. We considered using balloons, but it turns out, even those have their limits, however big they are. To fly higher, you need something revolutionary.”

As they came up to a heavy blastdoor set into the side of the corridor, Will gulped. She had intended to use the other entrance to the bunker, the one that did not pass by Lyuka's old lab, but with Rarity's incessant babble bearing down on her, she had forgotten herself. Was bringing this pony along another of Celestia's devious plans, perhaps? She tried to pick up the pace and distract the group from the steel vault door:

“We had studied many technological means of reaching the extreme altitudes required to conduct our experiments. In our long studies, we've managed to stumble upon a particular kind of vehicle, a rocket. Think of it as a large firework, except it doesn't explode at the end.”

Not on purpose, anyway, she mentally added as she glanced at the large imposing door.

“Lyuka F., Liquid Engines Department?” Twilight questioningly read out from a small sign beside the door, then turned around to the Director: “Can we take a look?”

Realizing the group had stopped in their tracks, the Director turned around, and noticing the pink pony was already prying away at the vacuum seals, urgently shook her head:

“I'm afraid that whilst studying the last batch of possible fuels, namely inter-halogenic compounds, our labs experienced a... uh... well, let us simply say we will all live a lot longer if nopony opens that door. Ever.”

Though Celestia raised her eyebrow at the statement, the group as a whole – and after a bit of panicked gesturing, even the royal jester – decided to forgo any further questions and instead rapidly move on. After a hurried walk through zigzagging concrete corridors designed to dissipate any advancing explosion, they arrived at a new door, this one far less massively imposing, but still quite bomb-proof. As the Director came to a stop before it, the pink pony crashed into her from the back.

“I must remind you again, please do not touch anything once we've entered, and don't disturb our scientists,” Will repeated, throwing open the wide doors to the lab. The ponies quickly all jumped back, then peeked out from behind Celestia's towering figure.

“Don't worry, this one's safe,” Will tried to reassure them. Nevertheless, they weren't convinced until she had stepped in the lab herself; At which point, they all rushed in and began scrutinizing everything in sight.

Visuals-wise, the scientists had done a pretty good job at getting the lab this prepared at such short notice; Instead of the usual caskets of clear liquid and barrels of toxic white powder, the benches were stacked with coloured and bubbling water of every sort, each giving off exotic sweet smells. The scientists were also all looking sufficiently scientific, each wearing a labcoat and thick goggles. Overall, Wilhelmina was satisfied.

“While Lyuka's department investigates revolutionary liquid-propelled engines, here in Lab C we are trying to approach the problem from an evolutionary perspective instead. We are taking the classic firework design, and applying chemistry to come up with fuels far more powerful than common black-powder.”

“Like those perchlorates earlier!”, the purple mare remembered, intently studying some sketchings of various oxidizing agents on a small blackboard in the corner.

Nodding, Will suddenly froze up as Celestia idly wandered up to her, that infernal warm smile still on her face.

“Director, all this is extremely nice, and apologies if I'm rushing you, but you still haven't quite explained just how all these 'revolutionary' and 'evolutionary' methods actually work. You talked about fireworks earlier, but could you perhaps elaborate?”

“Of course, your highness. Would everypony be so kind as to follow me to the next room, where a short video has been prepared for you.”

“A movie!”, the pink pony squealed, extracting her head from a vat of coloured liquid.

“Pinkie!”, the purple mare suddenly screamed, “Did you just stick your head in that?”

A vigorous happy nodding as her reply, the unicorn shot a terrified look to the Princess:

“We need to get her to a hospital, *now!*”

“Don't worry, Twilight,” Celestia responded with a calming smile, “I don't think those are perchlorates.”

“If they were, your friend wouldn't be jumping about so happily. Or at all, for that matter,” one of the nearby chem-ponies uttered under her breath, looking on in revulsion as Pinkie bounced all around her precious lab, knocking over beakers and unsettling volatiles. Once again, Wilhelmina was extremely thankful for having moved all the actual propellants to the nearby storage shack.

“Anyway,” the Director began, urgently funnelling the ponies into the adjacent projection room before they stumbled on something that was actually dangerous, “Onwards with our tour.”

As per the emergency plan Celestia/Three, the adjacent room had been furnished with a video projector and several scale models of the Cosmodrome's designs – those got a few quizzical looks from the group, but they quickly seated themselves as the lights dimmed and the film began rolling.

The silent footage was of the last launch, and as the towed rocket rolled into frame, Will began her narration:

“As I said earlier, we had decided to base our design on a simple firework. Except, of course, much bigger.”

While she spoke, the onscreen rocket was erected into launch position and prepared for launch.

“Those scientists you saw earlier managed to come up with a particular propellant – using a mixture of powdered asphalt and potassium perchlorate – which is double the intensity of the blackpowder you'd find in a normal firework.”

The film cut to a molecular diagram of their fuel, then to a short scene where a sample of the propellant was ignited in a lab.

“Lyuka's ongoing experiments could give us even greater efficiency, of course, enough to even reach what is called 'orbit'; A state of perpetual falling, wherein one is moving sideways so quickly that by the time you would have hit the ground, you'll have missed it. This means you literally

break free of our planet, of gravity, of the atmosphere. Something ponies never even dreamed of. Quite an interesting concept to ponder, I believe.”

A small animated diagram replaced the view of the lab, and the audience watched on as the basic principle of orbital motion was explained. To bring the point home, a photograph taken thirty miles above the surface was shown, clearly displaying the bright blue sky of their world gradually fade into a black starlit void. The altitude was such, even the curvature of the ground below was becoming noticeable.

It was blurry, it was overexposed, but it was the first such picture to ever be seen by pony eyes; An automated nosecone camera on the last flight had miraculously survived the explosion, having been shielded by the massive bulk of the control unit, and though most of its film compartments had been smashed open, their teams still managed to recover this one picture.

As the ponies watched in silence, taking their time to fully appreciate the sheer scope of the idea (or just look at the pretty picture), Twilight hesitantly interrupted:

“I... I'm not quite sure I can express the coolness of this quite enough, madam Director. But what does it have to do with weather control?”

Wilhelmina smiled back, “As is obvious when you consider a firework, rockets consume an incredible amount of fuel, incredibly quickly; And when you add more fuel, you make the whole thing heavier, so you have to burn it faster to compensate. Thus, even our biggest designs cannot keep going for more than ten minutes. As spending hundreds of tonnes of rare chemicals on a few minutes of flight would be utterly wasteful, we instead opted to reach orbit, whence we can conduct high-altitude weather experiments for weeks on end, never using any fuel.”

Seeing the mare nod in satisfaction, she continued on with her presentation:

“While our teams work on resolving the few last issues with Lyuka's design, however-”, *such as the minor 'sets steel on fire and fills the lab with hydrofluoric acid' bug*, “-we have decided to do a few practical tests with solid fuels first, just to verify our equations work.”

The film cut back to archive footage of their last launch.

“To actually reach 'orbit', we will require both methods; Liquid for its high efficiency, solid for its significant thrust. What follows is a demonstration of the solid fuel booster.”

The footage finally came up to the final countdown, and the camera shots began switching rapidly – nosecone close-up, shaky aerial view, a slow-motion detail of the nozzle – as the massive firework ignited and shot off into the air, accompanied by much applause from Pinkie and a few scattered gasps from the others. Nervously glancing at the Princess, Will had to admit the constant subtle smile on Celestia's face was the most brilliant poker face ever.

The film followed the rocket as it ascended into the skies, switching angles and cameras, eventually becoming a faint speck even at maximum magnification. The recording cut to black precisely one second before the explosion; Wilhelmina had made sure of that.

As the lights came back on and the ponies applauded, Celestia turned around to Will:

“Director, a private word with you, please?”

Oh dear. This was it. As she took what might have been her last steps on this planet, she couldn't help but notice the smile on the Princess' face wasn't quite as gleaming as before.

Sealing the reinforced door tightly behind them, the Director turned around and faced Celestia. Her imposing form towering over her, Wilhelmina was nevertheless surer than ever that whatever might follow, she'd have no regrets.

“You have promised me great things, madam Director,” the Goddess promptly began – the usual warmth now quite gone from her voice, “To revolutionize Equestria, to bring about great benefits for everypony, all via the amazing power of technological advances – and yet here you are, spending countless millions on little more than entertaining fireworks. That budget could have gone to feeding the poor, new roads, better healthcare. I know you're trying, and that you mean well, but your Bureau is simply burning through bits like there's no tomorrow, and has only pretty explosions to show for itself.”

There was a big lump in Wilhelmina's throat. Celestia must have heard of the launch failure, then. But she wouldn't get banished. Not now. Not after so much progress. They were so close!

“Have you ever wondered, my highness-”, she began her carefully prepared speech, “-why there are so few earth ponies in our history books? We read all about the amazing exploits of great unicorn magicians. But the earth and wing proletariats?”

“I can think of ten famous ponies straight away,” Celestia brushed her aside, “And what does this have to do with-”

“Yes, ten,” Wilhelmina continued, a large part of her brain not quite comprehending she had just interrupted a goddess mid-sentence, “And how many of those just happened to be in the right place at the right time? And how many were actual philosophers, artisans, scientists?”

“You repeat the same tired fallacies that 'revolutionaries' had been trying to use against me for millennia. I am sorry, but they were wrong. Earth ponies are essential to society, many are rich landowners, and unicorns do not rule the world,” Celestia recounted in the warm, yet tired voice of an old teacher who has been faced with the same naïve question a thousand times before.

Wilhelmina was most surprised by her patience; Hopefully, this particular speech would bring a new twist on the ancient claim:

“You are right, earth ponies bless the land, and are respected for that. They are good apple farmers, wheat farmers, rock farmers. Why should they bother with anything else, after all? Leave the dreams to the unicorns. The dirt is good enough.”

“Except, of course, for all the famous earth pony scientists, and writers, and inventors. I am not quite sure where you are going with this.”

“Apologies, your highness. But consider: How often do you hear of such ponies? Rarely, and for a very good reason: All they have are hooves. No magic to levitate and manipulate delicate clockwork with, to handle several objects at once. While a unicorn can write thousands of words every day with ease, an earth pony has to clumsily handle the pen with her mouth.”

Will could see Celestia was already ready with a thousand rebuttals. She was an immortal goddess, after all – she had seen it all, heard it all, and given every matter ample consideration. And yet, in her infinite magnanimity, she was nevertheless letting the Director speak for herself, without interrupting her. Most thankful, Will pressed on, praying she had thought everything through:

“Same with pegasi, really. Why spend months trying to master the laws of electrodynamics, when you're never going to be as good at handling the components as a random unicorn across the street? Forget penning a masterpiece or preparing a brilliant new invention, all you need is a strong pair of wings, and you can make a great living thoughtlessly shifting clouds about. If you're particularly adept you get a job robotically running the machinery of a weather factory, or just become a good smith; But that is as engaging as it gets, and while it is *skilled* work, it is not *inventive* work.”

Guessing that Celestia's patience was probably wearing thin by now, Wilhelmina mentally scolded herself for not taking the time to shorten her speech, then continued:

“Like I said, it's not impossible to be a writer if you're not a unicorn, but without telekinesis, every intellectual labour becomes ten times harder. And since you can live by manual labour anyway, why bother trying? Leave the thinking to the horn-blessed bourgeoisie.”

That was enough for even the Princess. She resolutely interrupted Wilhelmina:

“If you pulled your head out of Trottski's old dusty book, Director, and looked at the real world for a second, you'd plainly see it's nothing but seditious lies. As the recent royal census all but proved, wealth distribution across all three races of our society is normalized. We are not all equal, I do not deny that, there are the rich and there are the poor, but all are given equal chance at the start, no matter their birth.”

“Apologies for the imprecise language, Princess – I was talking about a bourgeoisie of the *intellectual*,” Wilhelmina quickly clarified herself, “There are individual exceptions, but in the big picture, ninety per cent of our society's artists, philosophers, and scientists have been unicorns. That has always been the case, and now that this system has had millennia to entrench itself, it is more oppressive than ever. Growing up a smart earth

pony or pegasus, not only are you pressured by your friends, by your family, but you do not have any role models to look up to either. So why take the seemingly impossible plunge, when you can just go with tradition? And bury your dreams under a mound of earth.”

“Don't try to deny this, Princess – I've seen it happen to a dozen of my friends, every last one a brilliant mind, and every last one eventually resigning itself to a simpler life. Lyuka is the only one that pulled through. It's real, it's right now, and nopony's doing anything about it.”

There was a deliberative pause as Will stopped, trying to clearly formulate her next words. Celestia, meanwhile, took it as the end of her grandiose speech. With a faint sad smile, she began in her sweet voice:

“Wilhelmina, you must realize, I understand all that. Though I admit you've understood Trottski's *real* argument far better than most who attempt to interpret his work, and possibly better than his own essays, I must ask: What is there to do? Earth ponies aren't unicorns, nor are pegasi – that's just how the world is. I can't change it, nopony can. All we can do is each take our roles, and do what nature says we're good at. This natural order of things cannot-”

The Princess paused. There was a small break in her poker face. Then, her sympathetic sad smile turned into a real one:

“Oh, I see. How clever.”

She understands! Wilhelmina almost screamed in joy. Meanwhile, the goddess continued:

“Using technology, to break up the natural order. Doing something far greater than any known magic allows for, and doing it *without magic*,” she recounted softly, almost for herself, “Allowing anypony to touch the stars, to do something magical, no matter how they were born.”

Yes! Yes! Exactly! Will thought, nodding along to every sentence. Celestia gleamed at her with a playful smile:

“Your idea is good, but there is one flaw. Why no publicity? How do you intend to give role models and inspire every last pegasus and earth pony in all of Equestria, when it's all kept secret?”

Will's smile disappeared off her face as fast as it had appeared. There was a brief terrified silence. Would this be the end of it all? Then, Celestia just... laughed:

"I suppose you just weren't sure if it would work, and didn't want a public failure."

The Director nodded quickly; *Yes. That will do.*

Celestia then smiled, and mischievously winked at her.

Oh buck. Does she know I just made this whole speech up?

"Regardless, now that you do, I fully expect every last pony on this planet to know all about your next launch. That footage is going to run on every last cinema screen in Equestria."

She's probably one step ahead, Will realized, She knows you've made it up, and she doesn't care. All I said is still true, no matter if it's my real reason or just a nice side-effect. Why waste a good cause?

Then again, maybe she just wants everypony in Equestria to see your failures publicly, and punish you that way.

Regardless of any internal speculation, there was only one external action left to take:

"Of course, your Majesty," Wilhelmina took a deep bow.

"Anyway," Celestia turned around, and suddenly the Director, taking her eyes off the Princess for the first time since the conversation began, realized the group of five ponies had been silently listening in this entire time, "I think this conversation has answered all my questions. We could be leaving now, unless..." she paused, eyeing the assembled team of ponies.

"Oooh, ooh!", Pinkie bounced up and down, "Can we stay behind? Please? Pretty please?"

"Oh?" Celestia seemed somewhat surprised, "You want to do that?"

"I just can't wait 'till we start liberating the earth and air comrade-proletariats by amazing feats of technostakhanovite labours!", the pink pony bounced, "While wearing funny hats!"

Wilhelmina froze mid-movement. Her ever-active brain suddenly began charting out all that might go wrong if this pony stayed here for more than a few hours. The list was exploding at an exponential pace. Terrified, she managed to get out:

“I... well... the facility is quite at its capacity for the moment. And adding new bunkers could take months. Not to mention the paperwork-”

“Awww... Pleeeeeeeease?” Pinkie made her best puppy-dog eyes at the Director, “This place sure needs more parties!”

No. Just no, the Director shuddered as she remembered some of the Vehicle Assembly Team's recent hijinks, *More parties is quite the opposite of what this place needs.*

“Now there, Pinkie Pie,” Celestia interjected, “I am quite sure you could help the program even back in Ponyville. Maybe put your... cooking... talents to use?”

“Oh, what a great idea! I'll make all sorts of space food! Space cupcakes, space drinks, space sweets, space pies!”, she hopped in response.

Thank you, Goddess! Disaster averted.

“Hang on there a minute. Where in hay is Rainbow Dash?” the other earth pony looked around, prompting the Director to do a recount. Of the royal retinue, there were indeed only five ponies present. Where was that sixth one?

Slowly swinging open the door to the projection room, the group peeked in. Rainbow Dash was silently sitting there, watching the rocket take off on what must have been the hundredth replay by now. Her eyes seemed to be in a trance as the vehicle ascended on a shining column of blazing fire, a controlled explosion whose sheer power made gravity huddle away in fear. As the rocket slowly disappeared into the sky, she glanced quietly at her small wings.

Noticing the other ponies peeking in, Rainbow quickly dashed up to the Director:

“How much do these cost? I want one! I need one! Please? Please? Pleeeeease? I'll take up a second job! Just let me join up!”

Celestia and the Director exchanged amused looks, remembering the annual budget of the facility. Rainbow looked on, hope in her voice:

“Maybe take out a loan?”

“Perhaps the Director can arrange something?” Celestia's voice suddenly cut through, just a hint of playfulness in her voice.

The smile disappeared off Wilhelmina's face. She looked at the pleading pegasus. She looked back at Celestia.

“Won't you, Director?” the Princess asked again. Despite the friendly tone, Will felt distinctly threatened by the question. It just seemed to have that unspoken 'or else' hanging off it.

“Well..,” she played for more time, eyes alternating between Dash and Celestia. Maybe she was reading too much into the Princess' words. Maybe it was just an innocent question.

Then again, maybe it was not. Who knew what Celestia's real motives were in all this? After all, even Wilhelmina herself would agree her impassioned argument hadn't been the best; It simply was the only one she managed to think of. It might have worked for a smaller venture, but a multi-million project really did need a better reason besides 'role models'.

The Director was not willing try her luck again. Not after so much. She had just about managed to save the Cape. Were she to suddenly lose the funding now...

She studied the pegasus again. Ever since Vera had failed her physical, the Equenaut corps had been one short. And if this really was *the* Rainbow Dash... Wilhelmina distinctly remembered reading about her during past research; That sonic rainboom she had performed at the Best Young Flyer Competition marked the first time such a phenomenon had been captured clearly on high-definition film, sending ripples of excitement throughout the Equestrian scientific circles. So there was that to consider. And she did seem like the sort who'd be popular enough with the public... maybe it wouldn't be such a disaster after all!

“Well, *that* was a disaster,” Will promptly stated, kicking the door closed behind her, then proceeding to throw herself on the carpet of Lyuka's office.

“Why? You saved the program. Isn't that all that matters?” she asked, leaving her sketches and flying over to the Director.

“Yeah, but now we'll have to go *public*,” Will uttered the last word with disgust, “All *interviews* and *freedom of the press* and *paid overtime*. How am I supposed to do what I want if it's not all kept secret?”

“You know, paid overtime might not be such a bad thing-”, Lyuka discretely began, but was cut short:

“We're doing science here! If people start poking around, who knows what they'll find!”

“Hey, at least we'll get a bigger budget, right?”

“At what cost! I bet those crazy journalists will just get in the way. 'Should uneducated workers really be handling deadly chemicals?', 'What happens if that rocket full of liquid fluorine explodes above a populated area?'. Stupid paparazzi.”

“You know, if we actually had the extra bits to afford new fuel tanks instead of constantly reusing the old ones, that trifluoride might not have caught on fire, and our lab would still be usable!”

“Budget schmudgets. We got by on chump change so far!”

“Yeah, but now that we're planning on sending a mare to outer space, don't you think-”

“If we run enough on-pad simulations, we can keep the test flights to a minimum. Besides,...” the Director began, laying out her argument. As soon as she finished, Lyuka shot back with her own, and so their dialogue bounced back and forth, slowly escalating both in volume and language.

This will be a long night, some resigned neuron at the back of her head fired, *Again*.

Rainbow tightened the last strap of her saddlebags, just about ready for her departure. She had made sure to memorize the route Celestia's cavalcade took as it was returning to Ponyville, and would now fly all through the night to retrace it. The Director had given her some papers saying something about a 'ferry balloon' a week from now, but that was the way for engineers and sparkling brainiac unicorns, not Rainbow Dash!

Leaping into the air, she shot through the doorway of her cloud home and took off into the nightly skies. Doing a few loops and spins to stretch her wings and warm up for the long journey ahead, she eventually slowed to an idle hover, then turned around to get one last look at Ponyville, peacefully asleep far below.

She had already bid goodbye to all her friends, and they would come visit frequently enough; Nevertheless, it was a strange experience, leaving her home for so long and so alone.

She looked up at the starry sky. This whole thing was a strange experience. With determination in her eyes, she picked out one star from the hundreds above, then began accelerating towards it. The cool night air rushing past her face, her rainbow mane and tail fluttering in the wind, she tried to pick up the pace, her heart beating faster and faster as she put all her strength into her wings.

And yet, no matter how hard she tried, the star refused to approach any closer.

Levelling out from her steep ascent, she swooped her wings outwards in one smooth motion and began to effortlessly glide, far above the clouds. She looked at the ground below; Once, the height would have seemed considerable to her; Now, it was nothing.

Closing her eyes, she saw the rocket launch into the skies before her. She saw the one blurry photograph it had taken; That familiar azure horizon, gradually fading away with altitude, until it disappeared into nothing. The green surface of their world so far below, its curvature already becoming clearly visible. Her friends probably saw it as nothing more than a pretty picture; Twilight as an impressive feat of technology, Celestia most likely as a waste of bits.

But for Dash, that photograph had reached out and stirred something deep in her heart. It didn't just represent the greatest adventure of all time, though there certainly was be plenty of that. No.

For all her bluster, Rainbow had always thought of herself as a down-to-earth pony, as strange as that might sound for a high-flying pegasus. She wanted nothing more out of life than a clear sky, a pair of good wings, and some good friends to cheer her on.

Being able to fly for the Wonderbolts and being admired by ponies all across Equestria would be amazing, true. But not once had she actually believed it was really going to happen; Ambitious as she seemed, she was actually rather pleased with her life so far. The occasional dragon, parasprite invasion, or flying competition made things exciting, she had an easy (and well-paid) job, and had already found the best friends of her life. It just couldn't get any more awesome.

And now, all out of blue, this just appeared. The chance to be the face of a revolution, to be written about in history books, to have little fillies a thousand years from now sit in a classroom and hear, "Today we'll talk about Rainbow Dash, the first pony in history to ever leave our small world and explore the great unknown."

It was unreal. It was too much, too suddenly. Things like this didn't just happen. Not for ponies without magic, not for ponies like Dash. Was this all a dream?

A confident smile appeared on Rainbow's face as she gazed upwards into the heavens. She knew it wasn't. Her saddlebags were far too heavy for that, the night air far too cold. It was real.

Obviously, it wouldn't be easy. There'd be other candidates competing for the first flight, and Twilight, though she had spent the entire journey back calculating trajectories and bonding energies, still wasn't quite sure an efficient enough engine could ever be built.

Rainbow did not care. If there was something she was good at, it was competitions. Now that she had been given the opportunity, she'd become the first mare in space, and nothing would stop her. No other pony, no silly law of physics.

Nothing.

Chapter 7

Songs of the Space Age

“ONWARDS TO THE STARS! – PRINCESS CELESTIA GIVES SPEECH OF THE CENTURY

In a grand announcement before the annual open-doors session of the Assembly, her Royal Highness, the esteemed Princess of the Sun, has announced the beginnings of an unprecedented public venture:

[...]During my millennia on the throne, I have seen many things. With great interest, I watched the construction of the great transcontinental railway. I was there when the first weather factory produced its inaugural snowflake. With these very ears, I have heard the very first stroke of a steam engine. And yet, no matter how many hundreds of these amazing developments I had seen, the next one would never cease to surprise me. Listen to me now, citizens of our great kingdom, for I will speak the honest truth; My magic, my power over the heavens, pales to nothing compared to you. Your sheer inventiveness, your unbounded creativity, your constant drive to make things better for everypony; You are the real gift of this land. Not some ancient princess sitting on a dusty throne.

I am humbled that you have granted me the chance to watch this once rural and medieval kingdom blossom into something quite incredible. A land of industry, of growing economy, of safety. We have defeated disease. We have forever abolished famine. Millions of ponies are free to spend their entire lives in happiness, confident their basic needs will always be met; And it is all thanks to you.

And yet, we cannot rest idly on our hooves. Now that our next meal is forever secure, it would be all too easy to just lay our talents to rest and live out the rest of our lives in passive comfort.

No. That way lies the road to boredom, to slow decadence – to downfall. Make no mistake, citizens; Though we live in a golden age, it is more important than ever that we never let our great culture decay to depravity and baseness.

With grand words should likewise come grand actions, and hence I put forth to the present Assembly the following: To ensure the everlasting prosperity of Equestria, to firmly train our sights beyond just the next meal, we should – nay, we must – keep pushing ever onward. But with all the continents of our world mapped, all the seas sailed, all the peaks scaled; Where can we go next?

There is only one way to go from here, my little ponies, only one way to go. Just yesterday, I have observed a great new facility spring to life; In the far western deserts, the best metalsmiths and mathematicians of Equestria gather to build the future. Together, they will work on exploring the final frontier, the last reaches untouched by pony hooves; They will bring the stars to Equestria.

But they cannot do it without your help. Space exploration is a costly and risky endeavour, and might not pay off immediately, I cannot deny that. Despite this, I ask you; What would we be now, had we never taken risks funding uncertain scientific projects? A loose scattering of small rural villages and stone castles, nothing more.

That is why I ask the Assembly to join me on this great adventure. By diverting just a small portion of each county's annual budget, we can accomplish something never even dreamed of before. The benefits are too numerous to count, the advances in technology that will follow too fantastic to predict.

We had come a long way since the ancient times, and now stand on the edge of a revolution. To back away now would not only be unwise, it would throw away all our ancestors had ever stood for.

Thank you.”

Putting the paper back down on her desk, Wilhelmina remained silent. Ever since her encounter with Celestia, she had been dreading something like this would happen; That the Princess would not only announce the project publicly, but that she'd do it with such grandeur and pomp to break even the most disinterested pony from her stupor. All the eyes of Equestria would be watching their every move now.

Right. No pressure, then.

Meanwhile, in the canteen of Stable IV, Zvezda had just been reading a very similar article, also containing a transcript of the speech. Taking a bite out of the still mostly untouched salad on her table, she continued:

The proposal was immediately met with a five-minute long standing ovation, then unanimously voted into law by all active members of the Assembly. Bowing in thanks, her royal highness had this to comment:

'By royal decree, from this day forth and effective immediately, ponies should no longer think of the sky as the limit. As this ambitious programme will prove, there are no bounds to what we can accomplish, if only we try.'

But is this really the best course of action? And how will such a grand project be funded? We consulted our political expert, Professor Neighsson, for answers to these questions:

'Some ponies had raised objections about just where the money for this great venture is supposed to come from. I wish to bring their attention the fact that the Princess had discussed the matter with the Assembly in a subsequent proposal, and eventually arrived at the decision to cut back Equestria's internal security budget; A department full of dark secret projects that have been put into place decades ago, most of which, quite frankly, waste ridiculous amounts of money on quite insane pie-in-the-sky experiments, and which almost never succeed in their goals. All in all, I commend her royal Highness on this difficult decision, and predict the programme will undoubtedly provide an immense stimulus to the metal-working and scientific sectors of our economy, as well as convince entire generations of the wonder of scientific progress. Equestria, Ad Astra!'

Of course, not all are satisfied with this new direction. Faced with a project of such sheer revolutionary intensity, some members of the public remain intensely sceptical of its feasibility. One of them is Josh, a crotchety old stallion that shouted at us from the front porch of his dilapidated dusty house, apparently having nothing better to do, as he has no job and lives on welfare:

"Ah don't know about you, but goin' to the stars seems awful dodgy to me! The sky snakes are gonna eat them all!!"

To refute these and other similarly unsubstantiated claims, a representative of the Royal Academy of Sciences has issued the following thoughtful analysis:"

A very large blot of coffee covered up the entire next paragraph. Irked, Zvezda looked across the canteen table in annoyance, and stared at Sara cravngly gulping down an entire mug of coffee in one go:

“Hey! I was reading that!”

“What do you have there, anyway?” Blues casually asked from across the table, then, noticing the title of the newspaper, burst into tears of laughter, “*Canterlot Daily*? Really? You read that stuff? Wow. Just, wow. I mean, I thought you were-”

“It's a great source of entertainment, you have to admit,” Zvezda quickly interrupted the laughing pegasus, “I don't know how they do it, but the way they put their own spin on things, without actually having to resort to lying, is really quite amazing.”

“Oh. If you're laughing at it, I suppose that's okay,” Blues shrugged, wiping the tears from her eyes, “But I know some who read those articles *sincerely*! Honestly, everypony, it's fine to admit that even Celestia screws up once in a while!”

“That's it, though. That right there's a hard one to accept. At least for some,” Zvezda noted between more bites of her morning salad, “When your ruler has so much power over your life, you *want* them to be perfect.”

The other mares nodded in quiet agreement. From across the table, Terra looked up from her own paper, probably a far more trustworthy one; Zvezda certainly knew there were plenty of those to go around, but she was equally convinced none could match the sheer hilarity of *Canterlot Daily*:

“Hey, Zvez, does it mention the Duchess of Hackney at all? She brought up some good points after Celestia's speech.”

She didn't even have to look at her copy, knowing the paper's ideological bent far too well for that:

“Nope.”

“Hmmp. What does she say? I'm interested,” Sara asked, finally putting down her mug. Meanwhile, Zvezda did a double take. *Did she really just drink all of that in one go?*

“She basically questions the whole thing. Says directly spending the money on schools and education would bring a far greater benefit than, and I quote, 'This most circuitous way of going about things'.”

“She's got a point, you know,” Sara began, discretely levitating another full mug of coffee from an adjacent table towards herself, “Sure, it's all pretty cool, but I don't really know why we're doing this. Shooting millions off into the sky.”

“Shh. If others hear you, they might start asking the same thing!” Blues theatrically hushed her, “And then we'll all be out of a job!”

“You *will* all be out of a job unless you hurry the hay up and get to the hangar right this minute, ladies!” the voice of their boss suddenly came out of nowhere, jolting all the ponies out of their morning stupor.

Rapidly stashing the newspaper under the table before it could raise any more questions, Zvezda looked around to see the Supervisor standing in the doorway of the canteen, fuming with rage. She then slowly turned her gaze upwards, to the large clock hanging from the corridor ceiling. Swallowing, she turned back to the doorway; The Supervisor was nowhere to be seen.

A few last hurried bites later, the ponies were all galloping to the workshop at full speed, paying little heed to any unfortunate passers-by or doors that got into their way.

“Right, now that we're all *finally* present, here are your daily assignments,” the Supervisor menacingly glared at the group of four mares for a few seconds, then continued, “Terra, we still need to test the integrity of the clustering nodes. All two hundred sixty eight of them.”

“Blues, it seems like the Commissar intercepted some of my procurement paperwork and censored out every incriminating detail. That would normally be fine, except he decided to include the serial numbers and quantities of every single part I happened to request. I need you to make him stop doing that.”

“Zvezda, Sara, the delivery company messed up yet another shipment. I'm seriously going to have to talk to whoever's supposed to be in charge of

delivering mail around here. Meanwhile, though, it's going to be your job to make that crate of half-inch rivets we got fit into the third-inch holes on the winglet assembly.”

They disdainfully looked at the Supervisor. She shrugged, “What can I say? If you want to pick off the list for yourselves, don't come fifteen minutes late. Now, get moving!”

Grumbling, they all slowly left for their assignments. Of course, upon arriving at the rocket, Zvezda and Sara discovered that not only had the delivered crate been loaded with the wrong size components, it also had inexplicably been shipped to the Equenaut training complex instead.

Idly trotting across the length of the Cosmodrome and enjoying the shade provided by the tall concrete bunkers that towered around them, the sight of a lone pegasus reporter snapping pictures off in the distance resurrected their breakfast's discussion:

“Seriously, there's no way ponies are just going to accept this, no matter how many articles *Canterlot Daily* publishes,” Sara began as the two mares continued alongside the stone path, “I don't know what the Director said to Celestia, but by going public, she's just condemned this place to a slow painful death of steady budget cutbacks. The public will see us continuously fail and slowly lose interest. As opposed to a quick death by royal mandate. Not much of a win either way, really.”

“The Assembly did seem to like it, though. Some might've abstained, but nopony directly voted against.”

Sara scoffed, “Would *you* vote against an omnipotent goddess that controls the sun and can banish you in the blink of an eye, no matter how crazy it was?”

“Come on, Sara! The Assembly doesn't just rubber-stamp everything. Remember that huge cautionary speech the Duchess gave?”

“Whatever. Just look at it from the point of view of an ordinary pony. A rock farmer living all her life in some rural hellhole; Ponyville or something. Compared to getting bigger subsidies, this whole thing must look like a giant waste of bits.”

Zvezda began composing her reply, then seized up as a familiar dark shadow passed directly overhead. *Oh no, don't let her see us here, not-*

Sure enough, all it took was a few more moments, and Cherry's excited cry sounded from the sky. Immediately glancing around for places to hide, Zvezda was nevertheless unable to react quickly enough to the orange pegasus, who dropped to an idle hover at her side mere seconds later:

"There you are! I haven't seen you girls for ages around this place! How have you been?"

"Fine," Zvezda uttered, still considering various means of escape.

"Great! What brings you away from the training complex, anyway?" Sara beamed.

"Nothing! Just on my morning flight, stretching my wings after a long sleep in bed, getting ready for training, you know!" Cherry smiled, "Say, you girls coming to the big thing tonight?"

"Big 'thing' tonight?" Zvezda repeated questioningly, pausing briefly before the gears in her head had clicked, "Is this another of those exclusive Equenaut-only 'things' that us common plebeians do not even have to apply for?"

"What? No it is n-" the orange pegasus began, then fell silent for a while, "Wait, I think you're right, actually. I've never realized that before!"

"Sure you haven't," Zvezda sighed, wondering how much longer this pleasant conversation was going to go on for.

"It's so unfair, isn't it? I mean, you girls do all the real work around here, but we get all the nice perks! I've got to ask Redstone about this, right away!" Cherry declared, causing a sudden lump to appear in Zvezda's throat. She then padded the two mares on their backs, "Don't worry, I'll make sure you get front row tickets! Right next to me! Oh, it's going to be great!"

And just like that, she was off. Looking at the orange pegasus quickly shrink into the morning sky, Zvezda pondered the likelihood of Cherry's success at towing them off into one of those stupid exclusive dinners or something. It was uncomfortably high.

“Press conference, I guess,” Sara noted, “After that huge speech yesterday, every reporter in Equestria must be rushing to reserve tickets here. We've seen one so far, but come evening, the whole place'll be crawling with them, mark my words.”

“Well, hopefully they won't pay too much attention to us simple ponies,” Zvezda sighed again, absent-mindedly kicking a rock along the desert path, “This job's hard enough without cameras scrutinizing your every move.”

“Say what you think, but I sure wouldn't mind an interview or two. Cherry's right. We're the girls who actually do all the work around here. We should be in the spotlight getting press conferences, not the equenauts!”

Arriving at the entrance of Stable IX, Zvezda was taken aback by the sheer size of the crowd that had already gathered outside. She never doubted there'd already be a few early arrivals, but *this* many? Zvezda tried to guess at their number. Hundred? Hundred fifty? That was almost the size of the all the assembly teams of the Cosmodrome. Absolutely preposterous.

One reporter standing at the back of the crowd momentarily glanced in their direction, yelled something, and before the two mares knew it, they were being swarmed by a group of at least two dozen frenzied journalists, all coming from the far back of the crowd, and all desperate for scoop; Every one of them armed with elaborate hairstyles, bulky cameras, and expensive voice recorders. Zvezda veered uncertainly as her senses were bombarded with bright flashes and rapid shouting:

“Can you tell us anything about the Equestria Seven?”

“How soon before the first launch?”

“Do you agree with Duchess Hackney's statement about-”

“In five words, how would you describe-”

It was all too much, all too sudden. The unending barrage of stroboscopic camera flashes, each of a slightly different colour and intensity, a fact undoubtedly stemming from the cheap electrolytic jars they used; The two dozen different brands of reel-to-reel voice recorders the

reporters carried; The immense range of perfumes and scents they wore; The sheer multitude of colours and movement being jammed before her eyes.

Zvezda's brain was desperately racing to process and consider every one of these details, to analyse their meaning and then stow it away under the correct section of her memory, as it always had when confronted with a new device or situation. But flooded with such a torrent of sensory inputs, it couldn't keep up, and her world began to slowly dim as-

“ENOUGH!” Sara screamed, managing to silence the reporters in one fell swoop, “We're just delivery crews! Not engineers! Now go pester somepony who actually knows about these things! Shoo, shoo!”

Seeing the crowd rapidly scatter, she turned to Zvezda, concern in her eyes:

“You okay, Vez? You looked kinda iffy there for a sec.”

Zvezda shook her head. No longer flooded with a constant stream of new information, her brain was now catching up at categorizing the already encountered experiences, considering every one of them. She repeatedly blinked, trying to clear her mind of all the shoddy cameras and kitsch hairstyles that now filled it.

“Don't worry. I'm fine,” she reassured her friend; Apparently quite unconvincingly, judging by Sara's continued expression. A brief bout of embarrassed silence followed.

“I... thanks for clearing them away,” Zvezda uncertainly began, then smiled in apology, “Sorry for screwing up your one chance at an interview.”

“Don't sweat it. All that matters is that you're alright,” Sara waved her off, then gestured to the large crowd surrounding the main entrance of Stable IX, “Now, say we go around and slip in through the back?”

“Sounds like a plan.”

Slowly opening her eyes, Lyuka ineptly stared at the blurry world outside. It was bright, far too bright, and the brightness was hurting her eyes.

Groaning as she rolled over in the bed, she pulled her sweat-soaked blankets closer in. Her head was filled with a million tiny splinters, all repeatedly stabbing at her fragile brain from every conceivable direction.

Blinking again, she considered the unfamiliar ceiling.

Huh. That's strange.

Hearing a nearby noise, her gaze quickly shot sideways, and her eyes tried their hardest to focus on the vague shapes occupying the room. Though not succeeding fully, she still managed to identify two particular blurs.

Are those a... oh dear. They are.

A pile of empty brown bottles with illegible writing occupied the floor besides the bed – which, as Lyuka was slowly realizing, was little more than a hard mattress tossed on a concrete floor – and behind them, in the distance, a tall stallion stood behind a table, writing something down.

Unknown room. Ear-splitting headache. Empty bottles. Good looking stallion.

Uh oh.

Forced into action by this influx of data, Lyuka began iterating through the large gaps in her memory, trying to piece together exactly what had happened; The greater picture was obvious enough, yes, but some highly critical details, such as the identity of that particular stallion, were still missing. Lyuka might have been a little wild at times, but even she had standards, dammit.

Now, what had happened yesterday? Celestia had given the speech. Hardly a reason to go partying, unless-

Hang on a second... Oh no. Don't tell me that is – Are you kidding me? Seriously? HIM?

Lyuka's eyes had finally focused enough to recognize the stallion's black leather coat and tall woollen hat. Were she more in control of her body, she might have screamed in anguish.

The Commissar? Of all the stupid ponies on this Cosmodrome, why would I-

Wait. This did not make sense. Even if she had been drunk enough to try and hit on the Commissar, why would he ever show even the slightest interest in returning the gesture? His only concern for such activity remained strictly limited to its potential for security leaks.

No. There must be some other explanation for all this, Lyuka thought. She prayed.

As more of the world slowly drifted into focus, she looked around once more, and, with her eyes stopping on the familiar bell of her experimental exhaust nozzle prototype, everything suddenly fell into place.

These weren't the Commissar's living quarters; This was her lab!

Leaping off the mattress – the one, as she now remembered, she had brought in after too many nights of falling asleep on the cold concrete floor – she looked again at the opened brown bottles. Hydrochloric acid, from the reactivity tests yesterday. She glanced at the time. Ten in the morning. No wonder her head hurt so much, she has had less than three hours of sleep!

However, all that still left one question unanswered. She uncertainly looked at the Commissar. The tall stallion was standing behind her desk, a thick marker in his mouth, meticulously blacking out every line of some oddly familiar documents...

“Just what the *hay* do you think you're doing?” she screamed, suddenly recognizing her research notes. Pausing in his destructive labours, the Commissar dropped the pen and shrugged:

“Censoring classified information. What else would I be doing?”

“Those are my research notes! I need those! For my work!”

“Journalists will tour lab in one hour. I must secure all classified information and-”

Lyuka pointed to the door, “Out.”

“But state secrets-” he confusedly began, only to be cut short again:

“OUT!”

She didn't know if it were her blood-shot eyes, the utter mess of a mane standing on her head, or her terrifying scream. Either way, the Commissar promptly saluted, then began a hasty retreat through the door.

Locking the blast-hardened hatch after him, Lyuka dropped back onto her mattress. Who cared about the press, her sleep was far more important.

Meanwhile, Zvezda and Sara had managed to navigate into the equenaut complex through the back door, recover their shipment, and slip back out again without encountering a single reporter; Or anypony at all, for that matter. The entire bunker seemed eerily silent, with the only sounds coming from the direction of the main entrance.

Returning to the main workshop, the two mares then began their arduous task of attaching the winglet assembly to the back segment of the rocket, all with incorrectly-sized rivets.

Installing rivets was a complicated enough procedure in the first place, requiring one pony to hold the bucking bar up against one side of the planned joint, whilst the other positioned and triggered a pneumatically-powered hammer from the other side; And to make this ridiculous procedure even harder, the heavy recoil of their air-hammers also meant, that, unless one wanted to shatter all her teeth at once, it couldn't be held with the mouth, and had to be levitated by a unicorn instead. All in all, Zvezda deeply despised whoever had invented the fiddly little things, and desperately wanted to go back to the all-welded construction of their last rocket.

Unfortunately, impractical as they were to install, rivets were also the only existing method of sufficiently strong and lightweight enough construction that did not require large amounts of electricity. Meanwhile, the workshop was working to a schedule, and their new design was to be five times as complicated as the last one; Quite literally five times, as the new vehicle would consist of a cluster of five of the old rockets stuck together via strong steel supports, then ignited all at once.

To manage such an increase in workload within the strict schedule, the assembly process had to have been ruthlessly optimized, all waste and inefficiency eliminated; This meant all of the workshop's welding torches were constantly in use, attaching the heaviest and most critical joints together, thereby leaving the assembly of other systems to simpler methods. Zvezda, given her talents, would normally have been assigned to one of the welding teams, but the Supervisor must have gotten up in a seriously bad mood today.

Of course, all of these complaints about riveting applied to the most ideal situation; When the rivets were the same size as the holes, and the pneumatic hammers worked. Neither of which was the case today.

Her horn glowing bright, Sara screamed in frustration as she repeatedly smashed the air-hammer onto the hard concrete floor of the workshop in vain attempts to repair it, possibly under the old adage of "If it doesn't work, kick it harder". On another day, the sight would have deeply amused Zvezda, but today she felt only pain as she tried to push the large rivet into the thin winglet component with her teeth, the metal refusing to budge in response.

After a few more minutes of fruitless activity, the two mares gave up and, exhausted, lifelessly slumped up against the cold metal hull of their workpiece. The rocket segment was still on its own, an isolated cylinder of sixty-five inches diameter and one hundred inches of length, fresh from the factory, lying in a distant corner of the workshop. Unfortunately, the schedule called for it to be attached to the rest of the rocket by tomorrow evening, and to accomplish that, the winglets would absolutely have to get mounted today.

"This whole joke costs millions of bits to make, but they couldn't spare a few hundred on a single working compressor?" Sara complained, still breathing rapidly from the exertion.

"Or, you know, they could've just bought more welding torches," Zvezda wished aloud, flexing her back and yawning, "Either way, it's a pretty good way of making sure we never oversleep again."

"True enough," Sara smiled sadly, then looked around, "Speaking of Mrs. Cranky, I haven't seen her since we came back from Nine. You?"

Ah. That would explain why she wasn't screaming at them for abuse of workshop equipment right about now. Zvezda shook her head in response.

"Want to sneak back to Four for some coffee?"

"Sure."

After a few more minutes of lifeless leaning, they managed to gather enough energy to get back on their four hooves and carefully make their way over to the workshop's massive doors. As Sara carefully peeked outside and checked the coast was clear, Zvezda took one last glance at the metal cylinder.

A warning light suddenly lit up in her head. Her mind screamed at her. Probably not good signs. Surprised, she took a long careful look at the rocket segment, mentally cross-referencing every detail with the copy of the blueprints inside her head. The outer plates arrangement, the unbroken texture of the propellant filling, the position of the winglet adaptors; Everything was... perfect.

Huh? What's wrong with that?

"Come on. Let's go," Sara pulled her away from the rocket, and the two quickly galloped across the open yard. Zvezda shook her head. She really needed some coffee.

"Anyway, mister Silbervogel-"

"Geist, please."

"-Geist; What can you tell us about your job here at Cape Coltaveral?"

The brown earth pony smiled as he looked into the face of the reporter, a voice recorder held under his mouth. Turning around, he gestured across the long hangar, where the seven equenaut candidates were each sitting in a spinning acceleration couch, rapidly flipping switches and toggling buttons as their training units continued to revolve faster and faster, bulbs of various colours glowing around them.

As a large crowd of reporters took pictures of the exercise, or shouted over each other in attempts to pry more information out of Redstone, Geist

stood in a distant corner of the room, alone with the single reporter. Looking at the scene again, he silently thanked Celestia for not giving him the professor's place, just this once.

Suddenly realizing the journalist was still waiting for his answer, he cleared his throat and began:

“Essentially, I am chief mechanic for the Equenaut training programme. My responsibilities include both the planning and construction of various-”

“So you built these things?” the reporter interrupted. Seeing him nod, she quickly followed up:

“Could you perhaps explain what they're doing there, then? It looks quite... pointless. Just spinning around and pressing random buttons.”

“Well, at first sight, that's certainly what it looks like,” he chuckled, “But our calculations have shown quite clearly that, upon take-off, the equenaut pilot will be subject to many strenuous accelerations and rotations. This means we need to test each candidate's ability to concentrate under such harsh conditions. Basically, we've had them memorize a checklist, which they then have to replicate while the seat spins faster and faster. Each testing unit also contains a specialized electro-mechanical recorder, which logs the precise time and position of every single keypress. Once the test is finished, we can go over these paper tapes and compare-”

“So, you have access to the performance records of the Equestria Seven?” the reporter, who appeared to be dozing off during Geist's technical exposition, suddenly regained her focus. An uncertain nod was all that she needed.

“Can you tell our readers who's looking most promising, then?” she asked, adding a wink, “Who'll be going up first?”

Geist, remembering Redstone's earlier lecture on confronting the press, suddenly became very fearful for his job, and quickly shook his head:

“I... err... not really, no,” he slowly began, stalling for time until he hit on a workable excuse, “At least not yet. The flight's going to put incredible strain on both the mind and body of the pilot, and until we have done some serious testing we cannot-”

“As head mechanic, you must have spent plenty of time with the equenauts. Can you tell us anything, how should we put it, 'interesting', about any of them?”

“We... the Cosmodrome cannot release any personal informa-”

The reporter violently stamped her hoof, “You're not exactly giving me much to go on, here! Come on, the readers want all the juicy stuff! Do they drink? Is one of them lesbian?”

“This is ridiculous-”

“You'll have full anonymity. 'Trustworthy insider source' and all that.”

“I... I honestly cannot-”

“I'll make it worth your while,” the reporter winked again, producing a small bag of bits out of nowhere, “Here's a hundred. Now come on, spill the beans. What's the deal with Dash's mane? What brand's colour does she use? Or,” the reporter suddenly gasped in excitement, “Is she an illicit-”

“Lady, that's quite enough!” Geist quickly stopped her, kicking the bag of coins back, “I don't know what's more insulting; That you're asking these questions in the first place, or that you're trying to bribe me with such a pitiful sum of money.”

For a few seconds, tense silence filled the air as the two ponies stared at each other.

“Fine. Have it your way, then,” the reporter snarled, scooping up her money, “I'll find somepony else who'll talk, you bet your flank! And just wait 'till you see the headlines tomorrow! 'Overpaid engineers stuff their faces while poor foals freeze in the streets of Manehattan'... you'll regret ever messing with the press, I promise you that!”

As she retreated back towards the rest of the crowd, uttering ever more horrible things, Geist sighed in relief. As if that headline would ever convince anypony.

Having fuelled up with some aviation-grade caffeine, Zvezda and Sara spent the next three hours steadily chipping away at their work. As Sara

slowly moved from one mounting hole to the next, using her magic to enlarge each and every one, Zvezda stripped down and reassembled the entire pneumatic hammer, discovering the small pressure regulator cap had gotten lodged in the closed position.

“You know, this is the one problem that you could actually have fixed by just hitting it against the wall,” Zvezda idly noted in amusement, breaking the past two hours of silence.

Except for the two mares, the workshop was now completely devoid of life, with the primary assembly crews having left for their lunch breaks half an hour ago; Zvezda and Sara wouldn't normally skip lunch, but they had taken too long in retrieving the crate, and would have to hurry up to get all the rivets installed in time.

The pair spent the next ten minutes in more blissful silence, upset only by the subtle creaking of metal and Zvezda's repeated tests of the air-hammer. As she verified the piston was working for the last time, she thought again about the rocket, and wondered why she just couldn't shake that feeling of wrongness out of her head. She had glanced at the segment frequently during the past few hours, and made certain that every single component was exactly where it was supposed to be, that every single seam was perfect, that the metal was smooth and unbuckled; It was all good, so why did it feel so wrong?

Her thoughts were interrupted as the large doors of the hangar suddenly came sliding open. Exchanging worried glances, both mares jumped on their feet to investigate the intruder. It was a blue pegasus, wearing an elaborate hairdo, sunglasses, a pair of bulky saddlebags, holding a camera as she suspiciously looked around; Obviously a journalist. Even disregarding the camera, nopony living here had such well-combed hair.

As she began taking pictures of the workshop and the massive half-assembled booster, Sara took a concerned look at Zvezda.

“I can handle one,” she smiled back. Nodding at each other, the two then quickly galloped up to the reporter:

“Ma'am, this is a restricted area!”

“Why?” the reporter screamed in disbelief, ascending closer to the ceiling where she couldn't be caught, “Why do you have so much security

everywhere? Why don't you let anypony see the rockets? Or the labs? You're more than happy letting the tabloids take all the pictures of the equenauts they want, but not one single pony has bothered to tell me anything scientific about the giant spaceships here! Is it really so evil of me, just *trying* to run a factual article?"

Once again, Sara and Zvezda glanced at each other, this time with far more uncertainty. The reporter seemed to be almost in tears at the end of her tirade. This was no *Canterlot Daily* employee, that much was for sure.

"We're just assembly workers, sorry," Sara quietly began, "We can let you take the pictures, I guess. But can't really say much about what it all is. Or how exactly it works."

The reporter seemed to pick up interest at those words. Flipping a switch on her saddlebags, a reel-to-reel recorder began spinning up to life on her back as she descended and approached the duo:

"So, you don't actually know what you're working on here? They don't tell you?"

"Well, not really. We mostly go off the blueprints and don't ask quest-" Sara began, but was promptly cut short by Zvezda, who sensed a potential disaster brewing:

"We know all the theoretical principles. The action-reaction engine, the expander nozzle, so on and so forth," she quickly iterated over what little she knew of the rocket's operation, "We just don't know all the details – say, the precise aerodynamic characteristics – because that needs lifelong experts."

"Of course," the reporter smiled innocently, then flew up to an unassembled segment of the rocket and ran her hoof over the sandstone-like material that filled the entirety of its interior. Snapping a picture, she continued, "So, this is the solid propellant?"

Trotting up behind her, Zvezda glanced at the rocket and nodded, "Yeah. Like I said, I specialize in metalworking, so I don't know its exact chemistry, but-"

"You assemble this rocket here, then? How? With those?" she suddenly changed the topic, pointing to the rack of welding torches on a nearby wall.

Zvezda could sense these questions were being oddly specific, but had no choice except to nod.

“Arc welding, yes? Using electricity and consumable electrodes. Only used in small-scale lab tests before.”

“Yes. The Cosmodrome employs plenty of revolutionary-”

The reporter quickly faced the rocket again, “So, you assemble the individual segments with the propellant already cast into them? Using electric torches?”

Oh buck. Zvezda suddenly realized just what story the reporter was playing at here. She quickly scrambled for damage control:

“It's all grounded! The workshop takes utmost care when handling fuelled components. And the ignition temperature of the fuel is so high it cannot possibly be triggered-”

“You say 'cannot', but it is theoretically feasible, no? If sufficient care isn't taken, this rocket could blow up in everypony's faces? Like a big firework?”

“The- the energies for space flight are so high, that-”

“Thank you for your time,” she beamed at Zvezda, cutting her off in the middle of her sentence and completely throwing off her train of thought.

As Zvezda tried to get her mind back in order, the reporter turned around to Sara. Seeing the confounded look on her face, she quickly took a picture, then continued:

“As for you, don't worry. Once the public hears of this, we'll do our best to get this sweatshop closed down. You have my word.”

And just like that, she was gone.

“Sweatshop?” Sara got out, the puzzled expression still on her face.

“If you're already sceptical of the programme, that's what it might look like, I guess,” Zvezda shrugged, “She probably talked to a few of the other girls too. Hired under false pretences, forced to do overtime with no extra

pay, handling dangerous substances with little education... that dumb look on your face sure didn't help."

"Oi!" she shouted, "I just work the metal! I've never even heard of an 'action-reaction engine' before you said it. Or 'ignition point'..."

Pausing a bit, she took a worried glance at the rocket, then added, "And just because you figured it all out doesn't mean I have. Has that rocket really been fuelled *this entire time* and nopony's told me anything about it?"

"That's why the supervisor spent the entire first day talking about good safety procedures! Why she kept insisting all the time we can't overheat the joints! Did you really think all that yellow filling was just ballast?"

"I didn't know, all right? Maybe the fuel would only become explosive after you've mixed it with some chemical at the pad or something! I just thought the heating would warp the metal! And I certainly didn't think we could all blow up with a single mistake!" Sara shouted, then stared at the rocket again, "You'd really think they'd tell us we're working on high explosives here."

"Well, no matter how you frame it, rivets can't blow anything up," Zvezda gave up, yawning, "Come on, we have a lot to catch up on."

Grumbling, Sara slowly returned to their explosive workpiece. Zvezda was about to follow her, then, realizing something, did a second take on the large and almost finished booster lying at the centre of the workshop; Six of its seven segments were already welded together, only awaiting the final piece that the two mares were still working on. She studied the structure for a long time, then closed her eyes. No warning lights, no hunches, no nothing. Huh.

Mumbling something about ghosts, Zvezda trotted off to their workpiece. Using the straps provided for that purpose, she firmly attached the bucking bar to her hind leg, wearing it like a clunky metal sandal.

As Sara lifted the air-hammer and levitated the first rivet to the joint, Zvezda firmly pressed her hoof against the metal. Sara positioned the air hammer directly against the other side of the joint, then, with a click, fired the pneumatically powered tool, smashing the rivet against the bucking bar, the small piece of metal deforming on impact and becoming irreversibly latched in place.

Zvezda flinched at the recoil, then, removing her hoof, moved an inch to the right and pressed her hind leg up against the next joint in line. They had about a thousand of the stupid things to install.

Zvezda sighed as she went through this ridiculous practice. She just knew a unicorn had invented these. Or, perhaps, an anomalously educated dragon. Either case, someone who wasn't stuck with hooves!

Though the sun had since gone down, Cherry was flinching at the light. In the tall briefing hall of Stable II, the seven equenaut candidates were proudly standing side by side, all wearing their reflective space suits and posing for the hundreds of cameras that unceasingly flashed at them; Their grandeur further enhanced by the rather insignificant figure of the Director standing off to their side, looking most mundane when compared to the row of shining pegasi.

Cherry glanced at herself with pride. The gleaming silver suit she was wearing was nothing more than a mock up, the first trial of the first version of the first prototype. Literally every system required for a space suit was still missing, from the cooling water inlets to the wing seals, and their helmets were yet to be elevated from the status of sketches lying on the Director's desk.

Nevertheless, one couldn't tell that from a simple glance, and its reflective silver surface and dozens of zips definitely looked most space-agey, not to mention very cool. Cherry was most pleased with the design.

"You've been hearing about them the whole day. You saw them train, watched as they went through strenuous exercises designed to stretch their bodies and minds to the very limits," the Director spoke into one of the many microphones prepared at the front of the podium, "But finally, here they are, ready to answer all your questions! Fillies and gentlecolts, I give you... the Equestria Seven!"

For the first time since they had entered the stage, the barrage of camera flashes ceased, instead replaced with a thunderous applause. Cherry smiled, and, with the other equenauts, took a deep bow for the audience. She felt at the top of the world.

All the training, the late nights spent looking through boring textbooks, the constant verbal abuse by Redstone and his ridiculous training schemes, were all finally starting to pay off. She had never particularly wanted to be a superstar, but this wasn't empty fame, oh no. She wasn't just some pretty model, or a singer who just happened to have a nice voice. Instead, she was one of Equestria's finest, one of the best pegasi on the entire planet, being rewarded for skill and determination instead of simple luck. Quite simply put, it was the best moment of her life.

Soon thereafter, the applause died off, and a hundred hooves shot up into the air. The Director pointed to one of them, seemingly at random:

“Joey Flatsides, *Hoofington Post*. A general question for the Seven; Faced with such scepticism from all ends of society, do you really think this project can succeed? Is it really possible for a pony to fly into space?”

The Director took a breath, but then stepped back and turned to face the equenauts. It was all on them now. The pegasi glanced around at each other. Cherry hadn't really been expecting such a loaded question right off the bat, and wasn't quite sure she could answer it properly, at least not without ample potential for misquoting or out-of-context mangling. And judging by the looks on the others' faces, the rest of the corps wasn't either.

A deep blue pegasus with a short azure mane, standing on the very left of the line, cleared her throat and stepped forward. Cherry smiled to herself. Bliz always had been at the forefront of the group, and tonight was no exception:

“Personally, I think that's a very silly question. The best minds of Equestria stand behind this space programme, ponies whose match this world hasn't met for a long time. And remember, even Celestia herself has personally blessed this project. I say to our neighsayers; Look at the light bulbs in your home. That electric oven you use daily. You don't question those, and yet they run on the very same mathematics as our rockets. Just think about that for a second. Thank you.”

“Next question, please. Yes, you, the mare with the yellow mane.”

“Amber Wright, *The Royal Herald*. Another question for the Seven; You're all very aware of the sheer risks involved. No pony can even guess at the dangers that will await you up there. What drives you to disregard all that, and fly anyway?”

“Like I said before, the best minds across the planet have gathered to work on this project. We cannot fail,” Bliz started off. To her side, Rainbow Dash stepped forward:

“You're talking to the best fliers in all of Equestria here. If anypony can ride these things up to space and come back alive, it's us.”

“Who, me? I'll be going last. They'll have six flights to make it work right, so I don't worry,” Ala joked, drawing a laugh from the audience, “Seriously though, those ponies are geniuses. I'm sure the first flight will be just as safe.”

“I was born in a small village north of Haliflanks. Insignificant little place, not on any map you'd find. We didn't have much money, but my parents worked the clouds day and night to put me through the Academy and give their little filly just a chance at better future than they themselves could ever hope to have. I'm doing this for them.”

“This is the greatest adventure of our lives, maybe of our entire history. I'd be a fool not to try.”

Cherry, standing near the end of the line, nervously examined the huge assembled audience. She glanced around. No matter how convincing she had tried to be, Redstone simply wouldn't allow for Zvezda, Geist, or any of the others to be present here, alternating between 'Are you mad?' and 'No. Just no.' every time she asked. She would have brought them along anyway, but they weren't in the canteen or any of their rooms. Swallowing, she began:

“Every morning, I see the ponies who build the rockets that will take us up. I hear them talk about possible improvements over breakfast. When I go to sleep, I can see their lights still on, working their flanks off to ensure the ships are in the best shape physically possible. Even when we have lunch together, they bring over a few schematics to study up on. They're my friends, they're working their hardest, and I know they won't let me down.”

“I think the others have said it all, really,” Scud, a pink pegasus with a long flowing blonde mane, proudly finished off, “We're the best, we're backed by the best, and we're going on the best adventure ever. What's not to like?”

“Strong words there, coming from the Equestria Seven,” the Director nodded approvingly as the audience applauded, “Next question, please? You there!”

“To Ala – you said you'd be going up last. Who will be the first?”

“I was just joking,” she laughed, then continued, “There are still a lot more tests to go through before that can be decided. But I think it's plenty obvious I'll be going up first.”

“Miss Dash, any comment on that?”

“I think Ala is quite right; I think it's plenty obvious I'll be going up first.”

The room exploded in laughter as Ala jokingly slapped Rainbow's head with one of her wings. After the uproar had quietened down, another reporter got her turn:

“Ruchka L. Krasnya, *Only Pravda*,” a crimson pegasus announced from above the crowd, “This one's aimed at 'Bliz' Shepard; You talked about how your rockets operate on the same physics as an oven, or a light bulb. While that is undoubtedly true, and there certainly are similarities, wouldn't you agree that our knowledge of such high-energy situations is far more limited than of the kitchen?”

“Thanks for that question, Ruchka, I'm glad you asked,” Bliz smoothly began, “I admit I wasn't particularly clear on that part of my argument – I certainly did not want to suggest building a rocket was on the same level as building a refrigerator, or any such similar appliance. My point was this; When you hear a mechanic talk about the physics inside a fridge, the heat exchange pumps and cooling mediums, you don't doubt her one bit. And yet, when we start talking about going to space, your faith suddenly vanishes, even though it uses the same theoretical approaches, even though the equations powering our rocket are exactly as trustworthy as those powering a fridge. I know that it's a hard concept to wrap your head around, but going to space with technology is no less possible than keeping your food cold for an entire week without magic – something our ancestors would have regarded as equally impossible.”

“Thank you for that most eloquent explanation, Bliz. Next question!”

“Another one for miss Dash; The Director refused comment, but perhaps you will reveal this yourself. Since you are technically a 'civil servant', what kind of salary will you receive?”

“Not one bit more than my old weather job. Surprised me too, actually. I'm kind of hoping for some magazine deals now. Hint hint,” Dash winked, drawing another laugh from the audience.

“A question for Cherry Skies,” a reporter shouted, causing her to snap to attention, “Shares of *Skies Precision AG* have already jumped thirty per cent from today's opening value, and are still trending upwards. Can you give us any comment on that?”

Cherry, suddenly realizing her father would be opening the evening papers about this time of day, paused uncertainly. Being a public celebrity was quickly becoming harder than she had ever expected.

Rolling around in her bunk bed – the lower one, obviously, as when they had first been shown their room, Sara had used magic to hold her back while grabbing the top bunk for herself – Zvezda still couldn't shake that rocket segment out of her head.

Of course you can't! You've been working on the thing the entire day! Makes perfect sense.

That's what she told herself, at least. But she knew it wasn't true.

She thought back to the sight of the half-assembled vehicle. That strange feeling, that hunch she got upon looking at it. That was the reason.

Zvezda scowled to herself as she remembered it. She knew how her own mind worked. She knew she was much better at spotting details than most other ponies. That's what made her a good metalworker, after all; Whilst a normal pony might glance over a minor imperfection in a weld as something inconsequential, Zvezda's brain would make sure to carefully consider its severity and possible modes of failure. She saw all the little things.

She didn't get 'hunches'. Such imprecise feelings were for other ponies.

What's a hunch supposed to be, anyway?

A warning light from the subconscious, maybe? Yes. A cry of attention, desperately trying to tell the conscious mind it had missed something. Silently, Zvezda wondered about that massive intelligence hidden inside her head, never accessible, but always working. It was amazing to consider, really, a mind which never stopped running, always controlling the million little things inside her body, plugging away through the night, discretely slipping her conscious mind ideas when she ran low on inspiration; Those sudden flashes of genius, seemingly coming out of nowhere, were each the product of a vast intellect ceaselessly working day and night.

And now, that intellect was trying to tell her something. Zvezda thought about it. If a normal pony got a 'hunch' when Zvezda would have seen the problem right away...

There was something there. She was sure of it. Balancing just on the edge of perception, barely visible, but most definitely there, and most definitely wrong.

Quietly getting out of bed and putting on a thick coat by the dim moonlit, she managed to slip out into the corridor without waking Sara. One quick trot through the cold desert later, she was standing at the doors of Stable VII.

Just as she reached for the door, a tall stallion in a dark leather coat interrupted her:

“Halt! What are you? Saboteur? Or spy?”

The thought of him guarding the workshop had crossed Zvezda's head. Fortunately, she had a plan:

“Commissar!” she put on her most desperate voice, “Thank Celestia I found you! Some strange ponies are trying to break into the research labs! Hurry!”

The guard pony's ears straightened up, and with not so much as a 'thank you, worker!', he was gone. Zvezda smiled. With the sudden influx of unauthorized journalists and visitors touring the Cape without any special permission or oversight, the Commissar's normal paranoia must have been whipped up to ridiculous extremes. All it took was a little push, and...

Smiling, she entered the dark hangar. Grasping a small torch in her teeth, she turned it on and trotted over to that very same booster segment she had spent the entire day working on. Angling the light better in her mouth, she closely examined the imposing metal cylinder. Its cold grey sleeve was still perfect, as she had already verified many times today. Similarly, the sandstone-like propellant that filled the cylinder in its entirety was flawless, its rough texture glistening in the shaking light of the torch. There was nothing wrong.

Of course, that could only mean one thing. Zvezda realized it now. If the perfect module felt wrong; That meant all the others, the ones that didn't 'trigger' anything, must have been somehow imperfect. Including their last rocket launch, and including the ones that were being assembled right now.

Quickly moving the torch over to the mostly-assembled booster, she began studying its every detail. All the seams were nothing short of perfection, each painstakingly welded together with great effort and love, the filler element flowing and devoid of any bubbles. Unlike the earlier attempts, the metal skin was quite smooth, direct proof the forgemasters had gained plenty of experience on the last rocket and could now churn out masterwork by the roomful.

Moving the torch up again, Zvezda stared at the unfinished end of the rocket, the place where the end segment would be attached tomorrow (or possibly today, depending on the current time). The propellant also looked as normal as ever; A solid filling of rough sand, cast in place, taking up the entire interior of the rocket.

She approached it. Everything else was good, so this must have been it.

Hearing shouts outside, her ears snapped to attention. The Commissar must have seen through her admittedly poor trickery, and would be bringing the entire security detachment back with him. For a second, Zvezda wondered whatever had made her do such a stupid thing in the first place – probably her chronic lack of sleep – then dropped the thought and concentrated on the rough yellow material.

Too late. The door smashed open, and two dozen dark figures appeared in the entryway, shining torches into Zvezda's eyes.

“Step away from that rocket, worker!” the Director's commanding voice boomed through the cavernous hangar, “Commissar, advance!”

“Wait!” Zvezda screamed, “Look at this! Look!”

The advancing stallions ceased in their gallop, and turned to the Director. Intrigued, she carefully made her way over to Zvezda, flanked by security and stopping a safe distance away.

“Explain yourself, worker,” she said coldly. Zvezda gesticulated wildly to the cast propellant:

“Look at this! Just look!”

“I am not coming one step closer until you explain yourself. Commissar, take-”

“I mean these cracks! Can't you see them?” she shouted to the Director, running her hooves across the surface of the propellant, “It's full of them. Tiny little cracks. They're not on the segments fresh out of the factory, but they are all over the assembled ones.”

“That is irrelevant, worker! Such-” the Commissar began, but was cut short by the Director, who proceeded to slowly approach the rocket, not saying a word. After running her head an inch above the propellant's surface, she turned away, blinking at Zvezda in disbelief:

“How did you ever notice this?”

“Call it a hunch,” Zvezda beamed, “I think I even know what's causing it! The propellant is cast into the ring segments, then hardened and shipped here. When we weld two of them together, the metal heats and expands unevenly, stretching and squishing the propellant with it!”

The Commissar approached closer, then glanced at the booster, “But they are so small. This is huge rocket. How can this matter?”

“When we ignite the rocket, the propellant burns slowly from one end to the other, like a candle,” the Director began, “The thrust of the engine depends on the rate of burn.”

“And cracks?”

“Normally, the fire only burns the fuel mass in immediate contact; But when it hits on an air pocket, it ignites all the propellant lining the sides of

the fracture, a much greater surface area than a contiguous surface. That gives you sudden and unexpected jolts in the burn rate.”

“Hmm... did you not say last rocket explode from unexplained acceleration?”

“Exactly! I based everything off the theoretical rate of burn. If these fractures were on the last rocket as well...” she trailed off, then looked back at Zvezda, “How did you know of all this?”

“I didn't. I just thought something was wrong, then saw the cracks,” she shrugged in response. The Director briefly laughed at such candour, then nodded approvingly as she surveyed the rest of the rocket:

“However you did it, this discovery changes everything. If you hadn't caught it, the next rocket would accelerate too fast and break apart again, just like the last one. You just saved us a few million bits, worker!”

Zvezda smiled uncertainly. Now that this strange 'hunch' was off her mind, she was quickly starting to realize just how tired she was.

“You work Vehicle Assembly, correct?” the Director resumed, “How would you like a promotion, worker? We need to get Star Walker prototyping underway, and that job requires the best metalsmiths in Equestria. From what I've seen of you here, I think your talents are being wasted just welding parts of rocket together. What do you say?”

Zvezda's instincts jumped at the proposition. But there was one important detail stopping her:

“With all due respect, Director, I don't think I can just accept this. The job is interesting, but without my friends, without Terra, and Blues, and Sara, I just don't think I'd-”

The Director's ears jumped to attention, “Sara? That unicorn you ponies christened our last rocket after?”

Seeing Zvezda nod, the Director looked first at the rocket, then back at her:

“You know what? You just saved us from major public embarrassment and entire months of our time and budget. You four can get the job, why not. Report to Lab F in Stable V tomorrow, nine hundred hours and not a

second later. I'll finish up the paperwork before going to bed, so don't worry about that. And, again, you have my thanks, worker."

Leaving Zvezda behind, the Director walked off at a brisk pace, flanked by the retreating security guards, and already mumbling of new models for burn rate estimation under her breath.

Meanwhile, Zvezda considered this new development. There was one detail in particular that jumped out at her: She'd get to wake up a whole two hours later. Oh yes. A dumb smile on her face, she slowly left for her quarters in Stable IV.

Chapter 8

Space Cadet

“...plus, you must account for the centripetal acceleration. So yeah, I think you did it wrong.”

Cherry, though sitting at the opposite side of the table, still flinched as Bliz finished her needlessly detailed and condescending explanation. In a defensive reflex, she sank her head deeper into her pile of study notes, cursing herself for not picking the Stable IV canteen instead. Zvezda and Geist were far more fun than these high-strung ponies.

As if to prove her point, Scud shot up into the air, and, hovering a few hooves above the ground, began bearing down on the blue pegasus:

“And just who are you to talk to me like that? Oh, I forgot! Redstone's favourite student! I'm telling you, he only gives you such good marks because you ask all those smart-sounding questions!”

“Now, wait just one second,” Bliz coldly began, “I do not care if you prove me wrong on the basis of truth, or a fault in my logic. But these quite unsubstantiated *ad equem* attacks-”

“Oooh!” the pink pegasus interrupted her theatrically, “I can speak dead languages! I'm so smart!”

“Look, it's quite a simple term. It's not my fault you aren't culturally inclined.”

“While you were spending months buried in ancient books, I was practising my flying! After all, who aced the ejection tests?”

“I did!” Rainbow interjected, “Are you trying to say you're better at flying than me?”

“You scored just two points more! And should I really remind you about yesterday's mechanics test? Who got ten percent there, huh?”

Ugh. Cherry tried to concentrate on the badly scribbled notes lying before her, tuning out the escalating argument before somepony said something so insulting, even she would have to join.

Not that it was of any use, of course. She could ignore the shouting, but not concentrate on her revision at the same time. Fortunately, at least one pony still had a shred of common sense left:

“Girls, stop!” Ala resolutely bellowed, stopping every other candidate mid-sentence, “It was just an orbitals minitest! Why is everypony so on edge!”

The confrontation did cease, only to be replaced by a cold war. The answer to Ala's question was obvious enough, after all, though none dared voice it; Only one could be the first. And every one of the seven wanted it to be them.

Cherry looked up from her notes, surveying the situation around the table. Bliz and Scud, though now silent, kept staring scornfully at each other, as Dash glared at them both. Ala was alternating her gaze between everypony else, trying to make sure the argument did not restart. As she looked around, Cherry noticed today's copy of the *Herald* tossed down on the table. On its front page stood Rainbow, dressed up and posing majestically before a large painting of the Moon. A special interview or something. Cherry noted once again that not only were those space suits shiny, but they also looked *really good* in photographs.

“What's it saying about us?” she casually asked as if nothing had happened, nodding towards the paper and breaking the icy silence, “Good or bad?”

Ala stared in confusion at Cherry, then, tracing her sight, smiled in relief:

“Not much. Just highlights from the conference. Boring stuff, really.”

Scud, breaking her staring contest with Bliz, looked over to Ala:

“What do the editorials say? I wanna hear the editorials.”

As Ala fumbled through the pages, the tension began to melt away. Gradually, the pegasi loosened up, with Scud landing back on the ground and Rainbow resuming her lunch.

"Let's see here," Ala eventually found the correct page, "Great step forward for ponykind... Despite grand announcements, there's still a long way to go... oh, this one looks interesting! 'The Space Age; One giant leap backwards'."

"Backwards?" Rainbow spat out in surprise, "What? Are they crazy?"

"I'm not quite sure," Ala paused, then began to read the article out loud. "So, the Equestria Seven were announced yesterday... and guess what? They're all ponies. They're all female. Listening to Celestia's grand speech, even a jaded pessimist like myself could begin to believe our society would finally leave all its discriminatory baggage behind and move onward to the future. No such luck, it seems. There is not a single minority, not even a token male, amongst those dubbed 'Equestria's Finest'. Tell me, readers, what does that tell to those of us who did nothing wrong except be born to the 'wrong' parents? It says, clearly and loudly, 'Don't even bother. You can never be the best. You-'"

Scud snorted, "I bet it's written by a griffon."

"It is, yeah," Ala nodded, glancing at the final line.

"We were chosen because we're the best, not because we're trying to oppress minorities!" Scud continued, "I swear, these advocates read into this way too much."

"She's right, though," Cherry quietly began, then, seeing the look on Scud's face, quickly continued. "Just look around. No griffons here."

"Well, duh. We were all recruited from the best flying academies. It's not my fault those are all pegasi."

"That's the point though, isn't it?" Bliz suddenly spoke up, causing Cherry to smile. If Bliz was on her side, then she was probably in the right. That mare did not make mistakes.

"The recruiters did not correct for such bias. There might be dozens of brilliant griffon fliers, and we simply wouldn't have noticed them, because we didn't actively look," the blue pegasus continued, "If we are to give them an equal chance, we have to do exactly that."

"If they're so good, why do they need special attention, then?"

“Now that is a very interesting question,” Bliz' voice suddenly changed to a far more academic tone, “The real answer is, as always, extremely multifaceted. First off, obviously, we must check we share the same description of 'minority'. Too many ponies seem to assume it just refers to numbers, when, in fact, it is the institutional power which a group possesses that is far more important...”

Cherry zoned out. Although she agreed with Bliz – the first few words, at least – she couldn't care for pretentious million-word dissertations on the obvious. Returning to her notes, she instead began memorizing how to calculate the eccentricity of an orbit. An equally useless equation, true, but it would be on the next test for sure.

“Right, now that we're all *finally* present,” the Director began, shooting a cold glance towards Redstone.

“I was busy! Marking tests over lunch!” the old stallion defended himself, “Is ridiculous! You would not believe how many of these mares don't know difference between periapsis and apoapsis. Five out of seven failed! Five!”

“From what I've seen of your teaching style, that's not a big surprise,” Lyuka chided the professor.

“Objection!” he shot back, “Why should I have to teach basics? They should read around subject themselves! That's what library is for!”

“Okay, Lyuka, Professor, we have a meeting to do here,” Wilhelmina quickly calmed the two ponies before a real shouting match began, “Now, before we officially begin, are there any last comments? Questions?”

“Anypony remembered to feed the chickens?” Lyuka piped up, causing the assembled chiefs to erupt in laughter.

Wilhelmina laughed along; That joke never got old. The five had been holding a meeting on Sequine's farm, talking about flight trajectories, when suddenly a flock of hungry hens stormed the little cottage, scattering all of their notes and making an utter mess of their prototype gyroscope...

Hay. How many years ago was that? Five? Six?

Suddenly feeling very nostalgic, Will looked around at the other members of their club. Lyuka, 'Assistant Director'. Redstone, 'The Professor'. Sequine, 'E.M.'. Sunny, 'The Supervisor'. Ancient nicknames, all chosen on youngsters' whims at their very first meeting, still held at the College...

Ah, those were the times. Seeing the laughter slowly die down, Will shook her head clear of the past, then focused on the voice recorder lying at the centre of the table. Suddenly surrounded with a dim blue glow, the switch flipped to the active position, and two large reels on the device began spinning, passing the magnetic tape from one cylinder to the other. Clearing her throat, the Director announced:

"Council of the Chief Designers, meeting two seventy four. Special session at the behest of the Assistant Director."

"Thank you, Director," Lyuka winked, then looked back through her notes. As they waited, Wilhelmina smiled to herself. Keeping the recordings anonymous was yet another ancient decision, just in case somepony accidentally happened to stumble upon their ever-so-slightly illegal experiments involving high explosives. Now that the project had gone public, it was no longer necessary, of course, but old habits died hard.

"Right," Lyuka took a deep breath, "Everypony ready? 'Cause this is exciting."

"I have to supervise flight training in half hour," Redstone glanced at the clock, "Can you get to point?"

"Yes. Well. Okay," Lyuka nodded, then, positively giddy with excitement, triumphantly announced: "We... we got it. We finally got it!"

"Got what?" Redstone impatiently snapped.

"The liquid propellant formula! We got it!" Lyuka flew up into the air in excitement, then circled the table, dropping a copy of her notes before each pony, "A stable hypergol!"

Wilhelmina looked at the page in amazement.

"I spent so much time looking at liquid fluorine, I missed this completely obvious thing staring me right in the face!" Lyuka finished rounding the

table, but remained in the air, gesticulating wildly, "Take some ammonia, add some electrolysed sulphuric acid, and what do you get? Boom! The perfect fuel!"

"Two nitrogen atoms, in *both* fuel and oxidizer? Most interesting," Redstone noted as he studied the sheet, as surprised as everypony else, "I thought you had given up on those ages ago. Not enough power."

"Yeah, halogens were much more reactive," Lyuka waved him off, "Especially chlorine trifluoride."

"Wait, I remember that one," Sunny began, "That's the one that burnt down your lab, wasn't it? Small wonder nopony got hurt there."

"A few minor burns," Wilhelmina pointed out, "And that one pony had a heart attack. Thank Celestia for our medical corps."

"Yeah. Collapsed five hundred feet away. Trust me, when you see a giant vat of trifluoride slowly starting to tip over, you start galloping so fast Celestia couldn't catch you," Lyuka spoke from experience, "Poor thing's heart couldn't keep up. Anyway, that's the exact problem. The halogens are so reactive, they set the engine chamber on fire. No matter what metal we try, it ends up in flames. Some of those fuels even burn *cement*. Fun stuff. This fuel plus Tetraoxide, though? Perfect."

Nodding, Will looked at the other sheet. A concept sketch of Equestria's first liquid-fuelled engine.

Lyuka-E, she smirked as saw the title in the corner of the diagram, *Trust Lyuka to name highly explosive unstable designs after herself*.

"So, how soon can we get production started?" she looked back at the assistant director. An uncomfortable smile was her reply. Uh oh.

"Well, now that we've solved our *first* giant problem, there's still, kind of, uh, one more..." she slowly began, pointing to the sketch "Look at it closer. You'll see it."

The Director glanced over the schematic again. A small spherical combustion chamber, a large supersonic nozzle, and a giant mess of pumps and plumbing that...

She blinked. The piping was random. Literally random. They began and ended in nonsensical places, intersected themselves, and angled impossibly. This was a napkin sketch, not a workable production design!

Lyuka uncomfortably smiled again, "Yeah. I've got no idea how to power the fuel pumps."

"Like all pumps. Steam engine," Sequine impatiently dismissed the concern.

"Well, you tell me how to get a high-volume high-speed steam-powered turbopump, complete with boiler, auto-feeder, and regulator, under one hundred pounds total mass, and I'll put it there, sure."

The pale unicorn stared into the air for a second, blinked, then smashed her head into the desk, opting to waste no words where actions would suffice.

The Director smiled, but only faintly. This was a big problem, and there wasn't much time left to fix it. Their schedule called for the first test firings to take place within a month. If they didn't meet that goal, there'd be no hope of putting a mare into space, not without missing their already-published deadline.

"What about little rocket engine?" Redstone suggested, "Add tiny combustion chamber. Burn small bit of fuel there. Use pressure from explosion to power turbopump, which then channels fuel to actual engine. Conceptually, simple."

"I thought about that, yeah. Seems like the only option, to be honest," Lyuka scratched her head, still hovering in the air.

"Won't that, like, halve the efficiency, though?" Sunny wondered aloud, "I mean, you'll have two separate engines in there, and only one providing thrust. And how will you power the first one, anyway? With a *third* engine?"

"No, no, no, the first chamber would be tiny, producing just enough power for the pump," Lyuka quickly clarified, "Only needing a low fuel flow. It can be gravity-fed or something."

"Oh, okay. And we can't gravity-feed the main one because...?"

“It needs far more fuel per second. It's pushing a giant rocket into orbit, after all.”

“Good point. So, small engine it is?”

“I still don't like the idea,” Wilhelmina shook her head, “It won't double the fuel usage, but it *will* double the complexity. Like the Supervisor said, two engines in one. Twice the piping, two combustion chambers, two separate throttling systems. A typical over-engineered system where too much can go wrong. There must be a simpler solution somewhere; And, as typical, we just keep missing it.”

The assembled ponies studied their papers in silence. After a few minutes of complete quiet, Will sighed. This would be another of *those* meetings.

Her vision dimming as she pulled a sharp upwards turn, Cherry swished through yet another of the floating metal hoops. Feeling a momentary faint sensation as her feathers brushed against its glowing frame, she gritted her teeth:

Don't tell me-

Hearing a loud klaxon blare from the ground, Cherry swore profanely, then continued her rapid climb. Entering a clockwise spin, she began scanning the ground below for her next targets.

In a few seconds, she spotted them; A cluster of three hoops, hovering just above the low roof of Stable VII; Each at ninety degrees from the last one, and with barely ten yards of clearance between them. Ridiculous.

Cursing the Professor for the hundredth time in as many seconds, Cherry suddenly folded her wings. Her speed being what it was, she continued gliding upwards for a few more seconds; Soon enough, though, old-fashioned gravity took over, and Cherry began plummeting towards the ground like a rock.

Feeling the air rush past her – its chill providing a thankful reprieve from the desert sun and her own body heat – Cherry flipped around in mid-fall, bringing the rapidly approaching ground before her eyes. After continuing

to stare at it for a few more moments, she deployed her wings in one fell swoop, already regretting putting style before substance.

A flare of pain ignited in her wings as she entered the high-gee turn and slowly began to level out. Fighting the instinct to fold them back, she instead forced herself to extend her outermost feathers even further, increasing lift. More pain was the result, but she didn't care. *Four last rings... just four more.*

As her fully deployed wings fought to avoid snapping, Cherry's sudden fall slowly transformed itself into a mere rapid descent. With satisfaction, she noticed the long roof of the vehicle assembly building now approaching straight-on. *Perfect timing.*

Feeling the pain subside, she immediately forced her wings to start working again, and accelerated even faster. Despite the complexity of all these movements, there were no thoughts running through Cherry's head. Her universe consisted of the whooshing air, the trio of floating rings, and the flat roof of the building. High gee aerobatics were the ultimate rush.

As the hoop grew in size before her, she froze the motion of her wings, concentrating on nothing but the incoming object. Running on pure instinct, she took two last breaths, then, exhaling deeply, spiralled to the side and angled her trailing feathers upwards.

The rapid turn pushed down on her chest and resulted in yet more protest from her overworked wings. Suddenly seeing the clear sky before her, Cherry wasn't quite sure what just happened; But there was no klaxon, and, turning her head around, she could see the three rings quickly shrinking into the distance behind her. She would have congratulated herself, but it wasn't over yet.

All too aware of the acute outcries sounding from every fringe of her body, Cherry began a soft climb upwards, tracing out a very wide loop. Halfway through the circle, she spotted the final ring; High above her, charting out a small figure of eight as it oscillated through the sky, bathed in a dim blue glow. Cherry scoffed.

Moving target? That the best you can do, Redstone?

She would have defiantly screamed these thoughts, but couldn't afford to spare the air. Accelerating towards the flying hoop, she gave little

thought to analysing its motion. In the rush of the flight, thinking was unnecessary; Her body knew what to do.

Angling herself slightly to the left and upwards, she sped up, giving the air a few final blasts from her wings. Meanwhile, the flying ring continued in its trajectory.

Three, two, one-

A whoosh of air, the blink of an eye, and it was done.

Right through the middle, Professor. How 'bout that? Cherry smirked.

The groundside klaxon boomed thrice, announcing the end of the test. Hearing the sweet sound of release, she spread her wings one last time, using all her remaining strength to keep them extended as she gently descended towards the Equenaut complex.

Spotting a small group of ponies watching her from the ground, she softly angled her feathers for a minute correction of her glide slope, then hit the ground galloping. Quickly slowing down, she came to a final stop mere hooves before Redstone. Glaring at the infernal professor, she nevertheless promptly saluted:

“Cherry Skies, reporting mission complete!”

Four camera flashes recorded her pose for posterity. Nodding in satisfaction, Redstone looked up from the clock lying in the sand:

“Very good, cadet! Hundred ten seconds, five more for brushing ring thirty seven.”

“Yes!” Rainbow, though visibly tired, jumped off the ground in excitement, “First! First place! I win! I win!”

This drew a rush of activity from the small group of reporters gathered here; Whether it was her laid-back yet competitive personality, her jokes, or her sympathetic background – she was the only one of the Seven to not graduate from an elitist private academy, after all – Rainbow was adored by the papers. As the journalists quickly rushed to take ever more pictures of the winning pegasus, Cherry rolled her eyes and looked around.

The two engineering unicorns were already levitating their metal hoops back to storage. Meanwhile, the other equenauts lay on the ground, motionless, water dripping from them as they recuperated. Noticing this, Cherry began searching for a bucket of water to likewise drench herself with. Only a few seconds later, however, Redstone looked back at her, having finished scribbling down the results in his unreadable mouthwriting:

“Third place, miss Skies! Bliz ahead by six seconds, then Dash by half second more. Congratulations, everypony, you broke last week's records. Half hour rest, then report for orbital mechanics resit! Dismissed!”

Cherry had no words for the professor. Well, she had plenty, but there were too many reporters around to use them.

“Resit?” Scud got out in shock, but Redstone was already walking away, notepad in mouth and not heeding a word. She turned around to the others.

“Resit?” she repeated, still in disbelief. Meanwhile, the other equenauts slowly got back on their hooves, moaning and cursing under their breaths. That thrice-damned professor.

Cherry sighed. Finally locating the bucket, she resigned herself to merely gulping down half its contents. Having done that, she slowly and uncertainly began wobbling after the others, advancing in the general direction of her living quarters. Already, she was imagining her revision notes lying on her desk, and exactly how she'd permanently maim her lecturer with them.

Catching up with the others, she glanced sideways at Rainbow, still talking to the small group of reporters. *Silly filly*, Cherry thought to herself, *I can't wait 'till-*

“You know, I can't wait 'till she washes out,” Scud, also looking in the same direction, confided, “She's already failed three mechanics tests. And the less competition, the better.”

It took for somepony else to voice these thoughts to help Cherry realize just how cold they really were. Stopping in her tracks, she glanced back at Rainbow.

Sorry, girl. I hope you'll do fine.

“Just popping in,” Redstone announced, happily poking his head through the open door, “Any progress?”

Wilhelmina shook her head resolutely.

“Okay then. Have to supervise equenauts again. Hopefully they won't all fail *this* time,” Redstone shook his head in wonder, then left the room. As the Commissar slammed the door shut from the outside, Will turned her head back to the desk, which now lay covered in many large sheets of paper, each home to dozens of vague scribbles and hundreds of quick calculations.

“How much specific impulse do we need for orbit, again?” Sunny asked, placing her head on the table and yawning.

“Three hundred thirty. Forty would be better,” Will checked the appropriate equation.

“That doesn't leave a great deal of wiggle space.”

“Nope.”

Some more unproductive silence followed. Wilhelmina tried to focus on the schematics before her, but the past few hours have been too strenuous; She was tired, demotivated, and utterly out of ideas. No matter how hard she tried to think about the problem, nothing was coming out of her brain.

“How much thrust do we really need anyway?” Lyuka spoke into the air, “Can't we just leave out the pump altogether and gravity-feed the stupid thing?”

“I'll have the Professor work out the minimal acceleration later,” Wilhelmina slowly replied, “But look at the equations. One gee gives you nowhere near enough pressure. It's a rocket engine, not a candle.”

“Pressure fed!” Sequine suddenly suggested.

“Yeah, that one sounds good,” Lyuka began in a tired voice, “Cept gaseous fuels have a lower energy density than horseapples. We need liquids. And you try pressurizing a liquid!”

There was no response from Sequine. None was strictly required, after all.

“Rocket-powered pump it is, I guess. I don't think we can work out more until Redstone's run the thrust profile numbers. Should we adjourn, comrades?”

Tired groaning was her reply. Not even bothering to speak the old and tried closing words, Wilhelmina resolutely flipped the switch and shut down the obedient voice recorder.

We already got the propellant! That's half the work done! she wondered as the ponies slowly filed out, *Why is this other half so hard?*

After two solid minutes of lying dead in the shower as cold water washed over her, Cherry began hurriedly revising orbitals from her messy notes. They still refused to make any sense, especially after all that flying. Eventually, she just gave up, and repeated the exact questions that had been on the last exam. Going more by automation than conscious thought, she looked up all the words she hadn't known last time, and checked up on how to get rid of those evil triangles again. Hopefully the upcoming paper would be similar to the last. It was a risky bet, but she had no energy for anything more.

Twenty minutes later, sitting in Redstone's chalky classroom, she was looking over the test in shock. She re-read every question four times, trying to find the catch. This was Redstone, after all, there must've been one. But no matter how hard she tried, she couldn't see it.

This was the exact same test. To the last decimal number and blank space, Cherry remembered every one of these questions from today's morning. Unable to see one single difference, she shrugged, then began.

Quickly going one-by-one, she filled in all the blanks of the opening paragraph, then started on the equations. Unlike last time, she knew how to calculate the eccentricity, and even remembered to add the planet's radius to the height above the planet when computing the orbital periapsis. Not too shabby.

Ten minutes afterwards, Redstone scooped up the papers and momentarily left the room. As soon as he had shut the door, the complaining began:

“That was the *exact same* test!”

“How on Equestria do you do question four? How?”

Meanwhile, Cherry sat back in her chair, quietly listening with a smug grin on her face. This bet certainly wouldn't work again, but for now, she was at the top of her world.

“Seriously, I reread the entire chapter for *this?*” Bliz announced in disbelief, the last to speak before the Professor returned again, this time accompanied by Geist. Cherry gave the latter – and only the latter – a cheerful wave.

“I hope you did much better this time around, class!” the Professor grinned, about as smugly as Cherry had earlier, “Anyway, after such good flying I think you deserve special treat! Pack up, we're going to Stable VI!”

“Six?” Ala asked in confusion as the class tiredly got off their chairs, “What's in Six?”

“Precision engineering,” Bliz excitedly replied, “There must have been a major breakthrough! I wonder if they prototyped the flight computer yet?”

Cherry, though certainly thankful there'd be no more teaching, would definitely have preferred ending early instead. Sure, computers looked cool enough; Especially the bigger ones, with their hundreds of gears and other clockwork that span in elaborate ways, making neat ticking sounds, especially when coupled with the cyclic clicking of several dozen relays, all running at once. Or the newer models, with those awesome condenser jars that kept flashing blue while working. Last weekend, Redstone had taken them to Sequine's basement to look at a few, and she still remembered the memory fondly.

Despite all their coolness, though, they remained utterly confusing machines that seemed magic, but weren't – most of the time, at least – and they deeply bugged Cherry. No matter how much she stared at the spinning gears, she still couldn't see where the all the maths came from.

After the group had made their way to Six and entered their target hangar, however, these thoughts immediately vanished into thin air.

Towering in the middle of the white room stood a shining ball of polished metal. Though bisected at the equator by a heavy-looking reinforcing ring, and intersected with a small round window on one side, it was otherwise a perfect sphere. Cherry grinned as she saw her own reflection distorted in its spherical surface.

“Star Walker capsule, model A,” Redstone announced proudly, “Study it well, ponies. One day, your lives are going to depend on it.”

As the five other candidates carefully approached the prototype, Cherry looked around the white hangar. In the far corner, Zvezda and her friends, all dressed up in white helmets and labcoats (and looking quite fetching in them, Cherry noted), were studying the impressed equenauts from afar, looks of accomplishment on their faces, and empty mugs of coffee on their tables.

Meanwhile, Bliz chose to approach Redstone instead. Hearing her inquisitive voice speak up, Cherry's ears shot to attention; Usually, in class, the mare just asked pointless trivialities. But outside, the situation could be quite different, and Cherry listened carefully, just in case:

“I presume this is not the full spacecraft, Professor? It seems rather... incomplete. Especially on the inside.”

“What?” Redstone broke from staring at the vehicle in astonishment, then looked at Bliz:

“No!” he began, then paused briefly and reconsidered, “Well, yes and no. Theoretically, it has all support necessary for space. Oxygen regenerator, food racks, water tank.”

“But for a practical orbit, we need a lot more, no?”

“Indeed, yes, yes. Communications. Retrograde engine. Manoeuvring thruster. Flight computer. All present in Comrade Module. Which isn't built yet. Nor is this module, really. Right now, it's just heatshield plus window. Still looks breathtaking, though. Thought you'd like it.”

“Flight computer?” Rainbow suddenly interrupted. Turning away from the capsule and towards the Professor, she continued:

“That reminds me! We haven't really learnt anything about *flying* this thing,” she punctuated her point by kicking its polished surface with her hind leg, drawing a gasp from the other equenauts and a flurry of panicked activity from the assembly team, “It's all flight computer this, flight computer that. Or how fix the computer when it fails. What about, you know, flying?”

She outstretched her wings to add weight to her words. Redstone looked back sceptically:

“Miss Dash, respectfully speaking, I don't think *you*, of all ponies, should be complaining about presence of flight computer. You consistently score bottom of class in every single astronav exam.”

Dash paused for a bit, probably taken aback by the Professor's audacity; Cherry wished to say she was likewise, but she wasn't, not really. Belittling somepony in front of all the others was due course for Redstone, that evil slavedriver. Having recovered, anger flared up on Rainbow's face:

“Look here, Professor. Two weeks ago, I was just the local weathermare for Ponyville, never having solved for 'ex' once in my life. I think I'm doing pretty good, considering!”

“Laws of physics do not care about context, cadet,” Redstone retorted, “Your background is irrelevant. All that matters is whether you can do it, or not. And right now, you cannot.”

“Actually, Professor, there is one additional argument for automation here,” Bliz took the Professor's side – both literally and metaphorically, Cherry noted, as she saw the mare position herself next to Redstone – then resumed, again starting up with her annoying academic voice, “We simply have no data on how pony physiology may react to whatever awaits us up there, chronic weightlessness and space-ray bombardment to name just a few. Will you be able to sleep? Eat? Stay conscious? Maybe. But if there's even the slightest chance of the contrary, wouldn't you prefer an automated system ready to take you to safety, just in case?”

“Well, I do know I signed up for flying. Not to be pony in a can!” Rainbow stood her ground. Cherry shared her feelings, and, judging by the silence coming from the others, most of the Seven probably did as well. However,

encouraged by the leader of the pack supporting Redstone, they slowly joined in:

"If it was my life, I'd prefer a computer. Just for the first flight, you know?"

"You're just being selfish! We're spending millions of bits here, we can't wager them without any backup!"

"Miss Dash, I did say council of chief designers seeks valuable input from equenauts," Redstone wrapped up, "But flight computer stays. Final decision."

If they stopped there, that might have been fine. But Scud just couldn't resist a flippant snort:

"Just 'cause the papers love you doesn't give you special authority, Dash."

That was enough to break Cherry. Marching up to Rainbow's side, she faced down the pink pegasus:

"How 'bout you stop with the insults and start arguing the real issue here?" she shrieked, then turned to Redstone, "Look, I know you want the first flight to be automated. But what if the electrics fail?"

"They cannot! Program is logically watertight!"

"So, when you talk about all those bajillions of wires and condensers inside," Rainbow began, "You're also saying there's zero chance of just one snapping loose? Getting installed the wrong way around?"

"Cadet, I suggest you read up on your polarity restrictions!" Redstone suddenly snapped, "I want a full presentation – in front of class – on condensers. By tomorrow!"

"What? How is that even-"

"Tomorrow, cadet!" he remained resolute, then, realizing something, ineptly resumed, "Okay, there is launch tomorrow, no classes then. But day after tomorrow!"

"You're still not answering her point!" Cherry demanded, "What if one wire falls out?"

“There is backup computer! Pilot flips one switch, and all is fixed!”

“Cept there isn't, Professor, is there?” Zvezda suddenly walked up to the arguing ponies, “Weight concerns. Even with just one computer, we're still three hundred pounds long of the target. There's no way we'll fit a second one in.”

“Well, then just use final backup! Open envelope, enter unlock code, activate manual control!” Redstone sighed as if he was talking to a bunch of simpletons, “Simple!”

“Because manual overrides never fail, am I right, Professor?” Cherry snapped coldly, “And nopony certainly *almost froze to death* from a simple override failure?”

As Redstone looked on the three mares in befuddlement, Cherry smiled at the other two.

“Thanks, by the way,” she whispered into Zvezda's ear.

“I was just correcting Redstone,” Zvezda quickly whispered back, almost defensively. Cherry gave her a questioning look:

Why would she want to deny helping me? Strange pony. Really smart, though. Probably has her own genius reasons.

Meanwhile, Bliz stepped up to defend Redstone:

“We are arguing over emotions here. In the big picture, we have no idea what is more likely to fail – the computer or the pony. It's a matter of trust, that's all.”

“Well, I trust myself,” Dash simply stated, glancing at her wings.

“And I trust the computer.”

Silence followed as the two sides waited, each trying to compose a new argument. Eventually, Redstone hesitantly spoke up:

“I... suppose... we could implement *both* systems. Computer and manual. No unlock codes, no control lockout. Just one simple switch.”

“Professor!” Scud spoke up in disbelief, obviously unable to admit defeat, “What about all those reasons you mentioned? What if weightlessness makes a pony go crazy? Claw at the controls in madness? What then?”

“Then we've already failed, no?” Zvezda posed, “We want to go to space. If we can't live in space, then this entire project is pointless.”

“Just put the switch somewhere hard to toggle,” Cherry shrugged, “Somewhere it can't get flipped by accident.”

“While we're changing stuff, can we also get a bigger window?” Rainbow livened up, looking at the capsule again with a giddy smile, “If I'm gonna be driving myself, I'd like a good view.”

“Geist, note it down. No control lockout. Bigger window,” Redstone sighed in annoyance to his overworked aide, then looked back at Dash, “Realize this doesn't change your homework, cadet! Now that you've got manual controls, I expect you to be more studious than ever! Starting with condensers.”

Rainbow blinked back.

“Are you serious? We already have seven pages of-”

“Very serious, cadet.”

Cherry, seeing Rainbow drawing breath for another argument, smiled sadly at her, then shook her head. *This one you can't win, girl.*

After the equenauts had all filed out of the workshop and Blues had firmly sealed the door behind them, the four engineering ponies looked at each other.

“So... More work for us?” Sara asked.

“Not sure. Maybe less, even,” Zvezda shook her head, “We don't have to install an overcomplicated override system now.”

“I want to go back to the rocket,” Terra sighed, “Far less politics. Just do what you're told and you won't get shouted at.”

"True," Blues replied, "Then again, we're getting paid a lot more here. Little wonder they expect more of us."

"If you ask me, the pay's nowhere near good enough," Sara protested, "We're getting paid production line money for design-level work!"

"Complain as much as you want," Zvezda shook their complaints off, "There's one thing that outweighs all of that."

"That is?"

"We're pretty much irreplaceable now. Having brought us in on the project, they can't really hire a new crew without re-training, which would take way too much time. So, if the Director wants to keep to her precious schedule, she can't kick us out, no matter what we do!"

"What if the hatch seal fails? The computer doesn't power up? What happens to us then?" Blues pointed out, "With a rocket explosion, there's fifty other ponies to share the blame with. Here, we're four."

"Yeah, yeah. But these other perks balance it out," Zvezda smiled mischievously, causing a terrified look to appear on Sara's face:

"Whatever mad bender you're planning, leave me out! I'm not getting fired over one crazy night, no matter how wild it might be!"

"That's not what I meant. Come on, Sara, honestly: Do I look like that kind of mare to you?"

"Well, you *did* get pretty drunk at that assembly completion party we-

"That was once! One night! And never again!"

"Pop corn staaaand," Terra hummed, bringing up the most embarrassing event of that night. Zvezda quickly spoke up again, trying to suppress the bad memories:

"Look, I'm not talking about getting drunk here! I'm talking about finally finding out what's going on in this crazy place."

There was a silence. Zvezda, a conspiratorial smile on her face, gestured the three other mares to approach her closer, until they had formed a small circle. Looking around, she whispered:

“Don't you ever wonder? The woollen-hat wearing ponies? Where we get all that electricity from? What's the deal with these bunkers? And – most annoyingly – what on Equestria do we need a Commissar for?”

“Oh, come on, Zvez!” Sara burst out laughing, “Now you're just being paranoid!”

“Well, did *you* see a windmill anywhere? A dam? Or power lines that stretch out across the desert? There's only the railway, nothing else!” Zvezda insisted.

“Maybe they've electrified the rails?” Terra wondered aloud, still uneasy with Zvezda's latest mood.

“Nope. Measured the voltage once in the night. Not a zip. And even if this one got explained away, what about all the others? Like I said, why do we need a Commissar? It's not like we're at war.”

“OR ARE WE?” Sara shouted theatrically, her eyes widening in mock surprise. The other two mares burst out laughing.

“Look, girls, I'm not saying there's a huge conspiracy going on, all right?” Zvezda defended herself, a bit irked by the reaction she was getting, “I just think this is all a bit... weird. Things don't happen without reasons. And there's a lot of strange things happening about this Cape. I want to know the reasons.”

She looked with desperation at her friends. They stood there uncertainly for a moment, then Sara broke the silence with a grin:

“Oh, why the hay not? We owe you at least that much. And I was getting bored just assembling stuff anyway.”

Sara stretched out her hoof; Zvezda put her own on top, then Blues and Terra did the same.

“Say, if we're going to be solving conspiracies, don't we need a team name?” Blue suddenly asked.

“Good idea! I propose...” Sara began, then quickly glanced around the room, her gaze eventually coming to a stop over a small pneumatic hammer lying in the corner, its manufacturer's logo prominently visible, “...Team Konik!”

“How about... Starwalkers?”

“No, no, no, I got it: Special Bureau of... uh, Telescopic... err, Zoom. No. Something else. Something beginning with Z. So each word starts with the same letters as our names!”

Zvezda laughed nervously, “How about we leave the naming for later, girls?”

“The Rivet Inquisition!”

“Girls?”

“The Power Four!”

After Redstone had dismissed the group for the day, a few hours earlier than usual – citing the tiring exercise and tomorrow's test launch as the only reasons – the equenaut corps scattered back to their quarters.

Most of them, at least. Cherry, on the other hoof, headed straight for the library, making her way past large groups of the strange hat-wearing ponies as she trotted down to Stable I; Her wings were still aching terribly from this noon's flight, and she decided to not abuse them any more, at least not today.

Only a few minutes into her journey, she noticed it wasn't just the hat-wearers that were strutting about in larger crowds today; Ponies from all departments were being unusually active, lugging large film cameras and crates of film around, putting up informational posters in the lobbies, cleaning the corridors, and setting up additional garbage bins.

Cherry had heard from Geist, who heard from Redstone, who had heard from the Director herself, that an unbelievable number of ponies from all across Equestria had reserved tickets for the upcoming launch. This put a smile on her face. The influx of reporters had already died down since the initial announcement, and Cherry was definitely looking forward to dressing in that awesome space suit again; Especially now that the prototypes have had their circulation membranes and piping installed. Spiffy-looking? Water-cooled? In the middle of the sweltering desert? Yes please!

Arriving at the library – a re-purposed storage room, but, as it was favoured by the entire Council of Chief Designers, exquisitely furnished with lush carpets, plush sofas, and beautifully carved wooden tables – Cherry pulled an old textbook from the shelves and trotted over to her favourite reading table; The one closest to the room's large fireplace. Putting the book up on a chrome stand, she flipped to the right chapter and lay down on the conformable sofa, basking in the warmth of the fire.

As she slowly went through the page, re-reading every paragraph several times just to *begin* understanding it – she got lucky on today's resit, but wanted to make sure she'd do even better next time – a bored part of her mind wondered about the fire. For a concrete bunker in the middle of the desert, it sure was awful cold down here. Weird.

Eh. The room was probably underground. Or they had some good air conditioning. Either way, there definitely was a good reason for it, and Cherry quickly dismissed the matter. Especially with these stupid orbital mechanics to learn. She still disliked having to spend so much time in the library, but her wings ached, the room was pleasantly warm, and nopony was bothering her. Media and attention were all very good, but even Cherry liked a break from them every so often. Plus, perhaps most importantly, none of the other equenauts were here.

Relaxing on the comfortable sofa, occasionally reaching to turn a page, and listening to the gentle crackling of the fire, the orange pegasus spent a long time with the book, taking notes and doodling spaceships in the margins when the text got too obtuse. Time didn't really seem to exist in the confines of the room.

Of course, Cherry only realized this when she had reached the end of the chapter. She blinked. Now that had never happened before. Not in a single sitting. Looking up at the clock, she suddenly realized why that was; She had spent a whole four hours here in this library.

She blinked again. Now *that* had certainly never happened before.

Getting up from the sofa, she stretched her legs one-by-one, then both of her wings. They were still sore, but getting slightly better now. Absent-mindedly looking around the otherwise empty library – the librarian probably was on a coffee break or something – she removed the

astronomy book from its stand, and, grasping its spine with her teeth, carried it back to the shelf.

Spotting the end of a rainbow tail with the corner of her eye, she stopped in her tracks, then, after a moment's consideration, trotted over to the equenaut. Rainbow had come off as quite different to the other equenauts today, at least in Cherry's eyes. Different enough to intrigue her.

"Hi!" she smiled, rounding the corner and seeing Dash spread out over several textbooks, wearing thick reading glasses and almost dying from boredom, "Don't see you 'round here often."

A tired sigh was her reply. "Why would you? Not like I don't have better places to be..."

Cherry, recognizing her past self in Rainbow's words, grinned encouragingly and approached to peek over her shoulder:

"'Theory of condenser operation'?" she shook her head, "Seriously. Redstone can be such a jerk."

"Tell me about it!" Rainbow turned another page, and stared at it blankly, "I mean, I point out a glaring technical flaw, and what does he do? Drown me in homework!"

"Yeah..." Cherry nodded, likewise looking over the open textbook, "Say, can you understand a single word on that page? 'Cause I sure don't."

Rainbow suddenly looked up, eyes widening:

"You... don't?"

"Nope," Cherry giggled.

"What about that huge electrics presentation you gave on Saturday?"

"Geist wrote the whole thing! Not my fault, not really. I just kind of accidentally slipped I didn't get anything over lunch one time, and then he spent three evenings in a row explaining it all in an understandable way! Nice stallion, really."

Dash collapsed back into her sofa, removing her glasses:

“Thank Celestia! I could swear I was surrounded by geniuses around here!” she exclaimed in relief, “I thought I was the dumb one out... not that I'm not, of course.”

“Well, Bliz is a genius. Ala too,” Cherry began, “But the others? Me? Hardly!”

“They always keep talking about politics and art and maths and, and *stuff* over lunch. I try to start a chat about the Wonderbolts. Or about just how cool this all is; I mean, we're going to space! Space! Then they just sneer and carry on.”

Cherry nodded along, then rolled her eyes, “Exactly! That's why I eat in Stable IV whenever I can. Or alone in my quarters... can't stand the pretentiousness in the Equenaut canteen. Only thing going for it is the food.”

“Stable IV? With all the brainiac scientists and engineers? Aren't they even worse?”

“You'd be surprised! They're a fun bunch. Well, okay, a few aren't, but that's just life.”

“You've been here the longest, though. You know them all,” Rainbow sighed, “Me? Not really. Everypony here is just so... *professional*. Even in their spare time, they're all studying physics books and ancient poetry! Makes me feel guilty for just wanting to take a nap!”

Cherry laughed, “You've been spending way too much time in Stable Nine! Look, join me next lunch with my crew, and you'll see.”

“I still feel pretty stupid, though,” Dash remained mopy, “All these geniuses around...”

Cherry was a bit surprised to see this side of her. At the few equenaut dinners Cherry had attended, Dash seemed as boisterous as the rest; And before the cameras, even more. Spending as little time with the rest of the Seven as possible – instead much preferring to hang out with the assembly crews – she never noticed just how different Dash was.

“Don't mind the others,” Cherry tried to encourage the blue pegasus, “They're just showing off. I'd bet they don't understand half the things they talk about.”

“Hey, I know they are!” Rainbow raised her head in protest, “Don't go thinking I'm some mushy emotional wastebasket! I just... all this gets to you after a while, you know? I love competitions, but to have one going twenty-hour seven? Without a single break, ever? Come on!”

“Especially with stakes like this,” Cherry added quietly, “First mare in space? Your name'll become as famous as Celestia's, remembered for all ages...”

“...while the others become footmarks in a dusty book,” Rainbow completed the sentence, “What kind of obituary is 'Fifth mare in space'? Seriously.”

Cherry beamed at Dash:

“A pretty cool one, actually!”

She just stared back.

“The way I look at it, all of us already won,” she continued, “Every pony in the land is talking about us. We're the 'Best fliers in Equestria'! We're going to space!”

“So, you're telling me to give up?” Dash slowly asked, distaste apparent in her voice.

“Hay no! I'm not giving up either, am I now?” Cherry quickly clarified, “But don't sweat it if you lose.”

Dash still seemed unconvinced. Remembering something the mare had mentioned earlier, Cherry tried a new approach:

“It's like being accepted to the Wonderbolts, and moping you're not the captain.”

That seemed to grab her attention.

“'Cept it's better,” she added, “The Wonderbolts don't get to go to space.”

After a pause that seemed to stretch on forever, a sad smile appeared on Rainbow's face.

"You're right."

Getting off the couch and picking up her reading glasses, she resolutely shut the textbook, then continued, "I'm just stressed out. From this crazy place, from Redstone, from everything. I'm not usually like this, you know!"

Cherry nodded in satisfaction. Much better!

"So, you'll join us for dinner tomorrow?"

"Well, not tomorrow, sorry. I've got friends coming over. For the launch," Rainbow shook her head apologetically, "I haven't seen them in two weeks! Also, I kind of need Twi's help with these stupid condensers..."

"Yeah, don't sweat it."

Turning around to leave, Dash looked back, a devious smile on her face, "Next lunch, though? Why not!"

Watching the hat-wearing ponies slowly drag the Cosmodrome's latest creation across the rail lines and towards the launching pad, the Director's heart swelled with pride. Very unlike the strictly practical affair of their last launch, this vehicle rollout was a far more grandiose event.

Powerful searchlights lined the length of the rocket railway, making its white metal skin shine like a pearl in the darkness of the night. The sky was perfectly clear, and the moon silently watched from its place among the stars, no longer as mysterious as it had once been. Looking at it, the Director smirked defiantly. For every generation until theirs, that little silver sphere had symbolized magic and impossibility. Now, it was a target.

Of course, reporters were likewise present, the early arrivals from the more professional papers, and they were doing their best to get both objects in shot at once and record the symbolism that way. From her vantage point atop the small launch control platform, Wilhelmina could count at least four film cameras, all tracking the slowly advancing vehicle as it made its way across the tracks.

Turning around, she glanced around their new launching site; The little ignition platform at its centre lay utterly dwarfed by the massive spectator podiums and observation towers, most of which were still being finished even now; The air glowed with magic as lengthy wooden planks were levitated into place, and ringed with the rhythmic beating of hammers. Occasionally, the entire scene would light up for a fraction of a second, as if from lightning, while the powerful ignition systems were tested; They would have to light all five of the new vehicle's engines simultaneously and without failure, and so were being given utmost care.

Two thousand ponies would be coming tomorrow, arriving by every possible means of transportation; And for every seat sold, ten more had to have been turned away in disappointment, not from any want, but simply the sheer lack of infrastructure here in the middle of the desert.

The Director smiled. Despite the omnipresent scepticism from self-proclaimed 'experts' all across society, the masses of Equestria were nevertheless thrilled by the Space Programme; The intoxicating combination of Celestia's grand speech, the photogenic equenauts, and the scant few minutes of released archive footage, all resonated powerfully with the common ponies of sprawling cities and farming villages alike. And they weren't even sending a mare into space yet!

Wilhelmina took a deep breath of the cold dry air, then looked around the imposing scene once more. A little off to her left stood Sequine, the only other Chief Designer to have already finished with her duties. She noted the unicorn's face was completely emotionless, and chuckled:

“What's the matter, Sequine? Still not enough for you?”

“Not yet,” she spoke softly into the night, “Moon rocket.”

Despite the denying words, Will could tell from Sequine's voice that even she was impressed by the sight. At least a little.

“Still remember our first meeting?” she absent-mindedly asked, not really expecting a reply from the succinct pony. To her great surprise, she got one:

“Lyuka's bedroom. I brought cake. It was cold.”

Now, for somepony like Sequine, that right there was a whole novel of saccharine nostalgia.

Wilhelmina also remembered, just like it was yesterday. *Redstone still had that ridiculous beard. And the way Lyuka styled her mane! I never had it like that... did I?*

The sight of the gleaming white rocket, slowly making its way under their platform, mingled with these humble memories.

“And just to think, from that little college bedroom came all this,” she looked around, taking another deep breath, “Just us five, a few pieces of blank paper, and one guiding dream.”

“Stolen voice recorder,” Sequine reminded her of the last object.

“Yeah. That too. Doesn't sound as poetic, now, does it?”

“World's not poetic.”

“Stories are, though,” Will retorted, “And that's what will survive. We'll all turn to dust. Our designs will get replaced and forgotten. The stars we know will grow cold and die. But the stories? They won't. They will perpetuate, getting passed from generation to generation, until the last pony draws her last breath. With time, no pony will know of our names, of all the hardships we went through to get here. But our stories will remain.

You know, at times like these, I wonder, I really do; What legends will they tell of us, a thousand years from now?”

But for the briefest beautiful moment, the sentence was left hanging poetically in the midnight air.

“Sad jokes whose rockets blew up.”

“Stop spoiling it!”

Chapter 9

Reach for Tomorrow

“T minus five hours! Repeat, five hours until lift-off! Vehicle is now secure on the pad. Entering pre-activation sequence.”

Leaning against the concrete wall of Stable VII and enjoying the shade, Zvezda looked on with interest as yet another transport balloon approached the busy patch of otherwise-unremarkable desert that had suddenly become an airfield. Next to her, Sara did the same, slowly and loudly chewing on a bubble gum, in highly erratic and unpredictable intervals that greatly annoyed Zvezda. The pair watched the enormous crowds of ponies ebb and flow around the Cosmodrome, carefully stemmed by the ever-watchful stallions of the commissar.

Zvezda wasn't sure she had ever seen such a large crowd all at once, not even at the first press conference; Ponies of every possible colour, hairstyle, and accessory were streaming in, hopping off the gondolas and uncertainly looking around their drab surroundings. Every strata of society was well-represented here; Academics in their thick glasses, vacationing families with little foals running and jumping all about, haughty-looking nobility seeking to be noticed at such a grand event, as well as just the occasional complete weirdo. Zvezda watched the multitudes stream by in silent fascination. Just when she thought she had seen the most interesting of the lot, another new arrival disembarked, brandishing an original outfit or an elaborate hairdo that made her reconsider. It was a little overwhelming, sure, but that was part of the fun!

A faint, uncertain voice broke her trance:

“Um... excuse me, miss?”

Zvezda tracked its origin; It was a little filly of pale olive skin, still without her cutie mark and sporting an adorable pink bow. Looking up with her giant orange eyes in a childlike mixture of fear and hopeful expectation, she made Zvezda's heart swell.

“What's the matter, sweetie? You lost?” Zvezda asked, automatically slipping into that infantile inflection adults use when talking to little foals. The filly did not take it well:

“I'm not a sweetie!” she began resolutely, digging her hooves into the ground, “And I'm not lost! Just... uhhh... exploring! That's it, I'm exploring!”

Ironically, that little display of resistance made her even more adorable. Not able to resist, Zvezda looked down and patted her on the head.

“Well, where do you want to explore, sweetie? I'm sure we can take you there.”

The filly flinched at the patronization, but obviously recognized her chance:

“I want to see the rocket!”

Sara smiled in response, likewise unable to resist the sheer tidal wave of cuteness.

“Whoa, steady there! You know we can't let you do that. Now, why don't you check out the museum? That has all the-”

“The *museum*? Mah sis stuffed me there! It's so stuffed and bare and *boring*! I want to see the real thing!”

The two mares exchanged amused glances, then looked back at the stubborn filly. Sensing her argument hadn't worked, she tried again:

“I just want a closer looksie! I won't break anything, I *swear*!”

“Aww. We know you won't,” Sara began, a wide motherly smile on her face, “But what would your sis think of us if we let you wonder around dangerous chemicals? These rockets are full of them, you know!”

“She knows I can handle myself! That's why she let me wonder around all alone!”

“Did she really, now?” Zvezda raised an eyebrow and gave her a questioning look. The filly was about to respond, then paused mid-breath. A few seconds later, she tried again:

“Mah sis' a champion of Celestia herself! You *have* to let me in!”

A shadow quickly blocked out the sun, for just the briefest millisecond.

“Should we ask her ourselves, then?” Sara asked absent-mindedly, gazing upwards.

Zvezda, tracing Sara's sights, looked up above, and gasped in surprise.

A giant shining... *something*... was quickly making its way through the skies, circling the Cosmodrome in a wide loop as it slowly descended towards the ground. Zvezda tried to focus in on the object; Despite its polished surface nearly blinding her with reflected sunlight, she was nevertheless able to make out a quartet of far-swept wings, two on each side, flanking a vaguely conical central hull. As she studied the peculiar vehicle, a loudspeaker on the nearest corner of the nearby building crackled to life, in unison with the rest of the facility's PA system.

“General bulletin: The royal diarchy, the joint princesses of the sun and moon, blessed for all ages, have decided to bless our facility with their divine presence. The carriage is now on final approach,” it blared in slightly distorted overtones, “Please rise for a rendition of the national anthem.”

The great vehicle continued its rapid flight through the heavens, and quickly disappeared behind the tall roofs of the concrete hangars that surrounded them.

“Come on!” Sara suddenly urged them on, “Let's watch from the roof!”

As her friend galloped off towards the roof access, Zvezda spared one brief glance at the little filly, remembering the Commissar's lengthy lecture on 'civilian access to restricted areas'. Then, she looked into the foal's endearing eyes, pleadingly spread wide open in anticipation, and sighed.

Oh, why the hay not.

Gesturing after Sara, she was momentarily left surprised by the sheer speed the little filly reached as she rocketed towards the staircase, then, smiling to herself, set off in pursuit.

One rapid gallop up the rickety metal staircase later, the three were all standing on the roof of Stable VII, lined up on its very edge, looking out

towards the launch pad; The little filly between them was almost jumping with excitement.

The royal orchestra, in all its entirety, was spread out just before the rocket, dressed up in glistening golden armour and conducted by a shining white unicorn. All around the facility, their efforts were being poorly re-transmitted by the omnipresent loudspeakers.

In two large quarter-circles, positioned against each other and centred around the main pad – and hence also around the band – towered enormous podiums and observation towers, currently about half-occupied by multicoloured crowds. Even from her distant vantage point, Zvezda could see the intermittent flashes coming from the spectators; Most likely the reflections of a hundred binoculars and opera glasses.

Amidst all this grandeur, the rocket looked almost mundane – five simple cylinders of dull steel, arranged side-by-side an 'X' pattern, each linked together with support struts and terminating in a small stubby nosecone. Only by its position at the central pad could an external observer deduce it was of any importance.

Suddenly, the air above the trio began shaking. Being a simple earth pony, it took Zvezda a few seconds to work out just what that deep hum at the edge of perception really was. Sara, on the other hoof, got it immediately:

“Everypony down!” she screamed at the top of her lungs, and slammed herself, along with the puzzled filly, onto the ground. Finally connecting up the dots, Zvezda quickly followed.

And none too soon. Just as she was hugging the rough flat roof of the hangar, a massive dark shape passed directly overhead, thundering along and missing her head by mere inches. Feeling the massive turbulence throw streams of her mane in all directions, she quickly looked up.

With this (uncomfortably) closer look at the new royal carriage, Zvezda could now see it was a giant winged ship, built of gleaming space-age chrome and flanked by two long pods – probably enchanted with levitating magic, she half-deduced and half-guessed. Its hull was decorated with many delicate engravings, of past victories and ancient legends, as well as grand achievements of pony science. The entire vehicle was large enough

to hold a decent-sized bedroom inside – which it probably did – and also had an upper observation deck.

And on that deck stood Equestria's eternal ruler, the wisest of all ponies, the most generous of overseers – Celestia herself, her pearly wings broadly outstretched, her starry mane and tail fluttering in the wind as the sky-ship continued its slow descent. Zvezda stared at the royal figure. It was the first time she had seen their ruler for herself – never knowing of her last visit until well after it had already happened, having spent the entire day working on nozzle actuators – and it certainly left an impression. At the back of her mind, she was thankful the Princess was facing away, and that she didn't have to meet her (no-doubt) steely gaze up front.

There was a subtle stir on the main deck. Peeling her eyes off the shining white goddess for a second, Zvezda noticed a second figure – when compared to Celestia, she looked small and insignificant, but, especially to a common pony like Zvezda, still remained impossibly royal.

It took her brain a few more moments to fully process the breathtaking scene. Unlike the Princess of the Sun, the second figure wasn't towering proudly, or even looking forward; Instead, and Zvezda's eyes widened as she realized this, she was looking backwards, *directly at her*, head slightly cowed and smiling almost... apologetically?

Off to her side, Sara waved excitedly after the distancing carriage. The filly followed, and Zvezda hesitantly joined in. Seeing the three ponies were fine and well, the dark mysterious figure smiled back, nodded to herself, then turned around and took her position at Celestia's side.

The carriage was touching down now, the royal fanfare crescendoing, but Zvezda didn't care. In amazement, she exchanged looks with Sara and the little filly.

“Was that...?”

“I *think* so,” Sara wondered aloud, “I mean, I heard all the fanfare, but kind of glossed over it. Thought it'd never affect me, you know?”

“Yeah. I was starting to wonder if she actually existed. You have one giant announcement, and then she just completely disappears. Weird.”

Meanwhile, the little filly just kept staring after the carriage, and the two now-disembarking princesses. Excitement in her eyes, she looked up to the two mares:

“Is it always like this? Fanfares and princesses and flying ships and stuff?”

“Nah. Usually it's just a boring job. Come in early, work all day, go eat something, hang out a bit, then go to sleep late,” Sara sighed, but with far less derision than she once have had.

“Well, it's pretty exciting. Not usually this much, obviously, but still quite a bit,” Zvezda smiled.

The little filly looked between the two mares in confusion, then looked back at her blank flank.

“Maybe a *rocket-building* cutie mark...”

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“T minus three hours! Repeat, three hours until lift-off! Power has been routed to onboard systems. Circuitry pre-heat underway.”

“So, anyway, the electricity builds up in the air between the two plates, and, uh...” Twilight trailed off, then began shuffling through the pages of the massive book once again.

Rainbow's eyes rolled off the many napkin diagrams that now littered their table, covering every place not occupied by apples or apple-based products. *If Twilight can't figure it out, how am I supposed to get it?*

“Oh, I had this a second ago!” Twilight exclaimed in frustration, “Just wait a sec, I'll find it again.”

Over Rainbow's shoulder, Applejack was examining the piles of scattered circuit diagrams and mathematical derivations with considerable interest. Catching Dash's eye, a sideways smile appeared on her face:



“Well, the Programme's sure done one miracle already! They turned you into a real bona-fide mathematician!”

“Shut up,” Dash uttered defensively, “I just need it for tomorrow. I'm not actually learning anything.”

“Well, it sure don't look like that to me!”

Rainbow was about to retort, but then another pony appeared at the makeshift counter behind them, and Applejack was drawn away to service the customer. In the sweltering desert heat, cold apple juice was proving particularly popular.

Their table, set up right behind the rough wooden plank lying on several barrels that made up the counter, was positioned right at the base of the left spectator podium, with excellent view of the rocket, and plenty of traffic. Additionally, thanks to the sheer height of the podium, it was in cool shade, and as a result Applejack was getting a steady stream of interested customers. The fact that most of them were rich ponies with less sense than money also helped.

*So does the sign*, Dash smiled, looking at the silly thing again. 'Endorsed by Rainbow Dash' read the blaring mouth-painted letters hanging from a nearby podium support. 'Good enough for space – good enough for you!' read another. There even was a giant colour poster of her posing in a space suit, ready to chow down on some apples, her now-famous characteristic grin spread wide across her face. Rainbow still remembered that particular photo-shoot with much amusement.

Overhearing the customer say her name, her ears jumped to attention:

“-come on, just this once?”

“The sign says, 'No autographs!'” Applejack retorted angrily, “Dash is a national hero, not some fancy-schmancy pop star! Now, do'ya want to buy anything, or not?”

“I will not be spoken to in this way! For your information, I am the long-running mayor-”

“Since ya can't even read, I'll make this crystal-clear now: Buy apple? Or no buy apple?”

As the customer scoffed and haughtily trotted off, muttering some vague insults under her breath, AJ turned back to the table:

“Sorry 'bout that. Some ponies just think they're such unique snowflakes,” she began, the scowl disappearing off her face as she looked at Dash, “But some ponies really are!”

Seeing Rainbow's expression twist, she shoved her sideways: “Hey! That was a compliment!”

Dash shoved her back, and Applejack responded with a push so heavy Rainbow ended up in the sand. The two mares burst out into laughter, tears rolling from their faces.

As AJ helped her back up, Rainbow looked around at her friends and smiled. She could just feel all the pent-up stress from this stupid Cosmodrome already washing off her. Twilight was still staring into the thick book, silently mouthing obscenities as she looked down at a page full of equations, unaware of anything going on around her. Fluttershy was being as quiet as always, silently sipping her tea, but even she was smiling as she observed Applejack and Rainbow's hijinks – noticing Rainbow was looking at her, she quickly lowered her eyes to her teacup. Rarity was the only one missing, undoubtedly seizing her chance to mingle with some of Equestria's finest nobility; Rainbow couldn't blame her, though, this was a once-in-a-lifetime chance. They would have plenty of time to talk to each other later, after all.

Realizing something, Rainbow began to turn around:

*Where the hay is-*

“Boo!”

Rainbow jumped into the air as a giant grotesque creature suddenly appeared before her. Her eyes shrank as she looked it further; Vaguely resembling a pony, but twisted in all sorts of subtle ways. Its orange hide was crumpled and sagging, its mane and tail completely gone – not a hair on the entire body. The head was the most terrifying of all, a misshapen mass of reflective surfaces, thick black mandibles, and-

Seeing the abomination suddenly keel over on its side and burst out laughing, she shook her head and regained her senses. Immediately thereafter, she became intensely annoyed:

“Pinkie!” she began, disconnecting the coverall's helmet and revealing the pink pony inside, “Those suits are for chemical emergencies! They're not toys!”

“You should've seen the look on your face!” her friend barely got out between bouts of laughter, “Priceless! Priceless!”

Tossing the helmet about in her hooves, Dash surveyed the thick air-filter in its snout and the segmented reflective visor. The lightweight but sturdy construction spoke volumes not only of its practicability, but also of its likely pricetag.

“Where did you get these, anyway? It's not like complete-protection suits just grow on trees.”

“Oh, you know,” Pinkie giggled, “Here and there.”

“You didn't steal it, right? Because-”

“No! What I am, a thief?”

Hearing shouts coming over from the direction of the Cosmodrome, Rainbow looked up from the expensive helmet; Off in the distance, an entire squad of the Commissar's stallions was galloping towards them, their thick leather coats fluttering in the wind as they bellowed threats and orders to any unfortunate passers-by.

“There she is!” yelled the leading officer, “Stop her!”

Pinkie looked at Rainbow.

Rainbow looked at Pinkie.

“Dash?” Pinkie uncertainly began.

“Yes, Pinkie?”

“You do out-rank those guys, right?”

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“T minus two hours! Repeat, two hours until lift-off! Commencing final computeronics checkout.”

Wilhelmina, resting on a plush leather couch in the front row of one of the exclusive observation towers, idly looked on as chaos unfolded on the pad below. Redstone, standing near the base of the rocket, was rapidly flipping through large sheets of calculations as he read off long strings of commands, sometimes taking a brief pause to check up on the busy technicians all around. Next to him, Sequine was concentrating intensely as her horn subtly glowed, accompanied by a constant subdued clatter of sliding switches and reconnecting wiring that resounded from inside the five nosecones of the vehicle.

“...inverting differential sequencer four, connect to node two-two-five. Variable resistance thirty nine, increase to five hundred ohm. Switch around condensers seventy-four and eighty-one. Flip valve nineteen. Reset programmable circuit distributor...”

Will shot a nervous glance off towards her side. Celestia, sitting only a few spaces away, was thankfully distracted by some random countess, listening idly to her impassioned plea for more regional school funding. The several members of the Assembly that had decided to show up for the launch were likewise chatting amongst themselves, or simply trying to survive the sweltering desert heat inside their formal black suits and top hats. None of them had yet noticed the chaos below.

Suddenly, an annoying voice, one which would undoubtedly come to hunt her nightmares, tore her from her woes:

“Greetings again, countess – I can call you Will, can't I? Of course I can – and let me say what an absolute delightful *honour* it is to have been invited to such a grand event.”

It was Rarity, that infernal mare Wilhelmina had met during the last royal visit, and hoped never to see again. At the back of her head, she wondered just how she had gotten herself past the guards and onto the royal observation deck.

“Anyway, I have been left most impressed by your speech this morning. You are quite right in saying the Space Programme reaches far beyond just engineering and arithmetic, and that we should all support it. We should, nay, we must, each offer our humble skills, no matter what they are. And,

being a professional dress designer, I simply couldn't help but notice the sheer inadequacy of your spacemares' uniforms."

"Yes, of course," Will absent-mindedly nodded and smiled, not even listening, instead trying to come up with an escape plan.

"You might say spacesuit design is an area for specialists, but, as it happens, I myself have had plenty of expert experience designing flight suits for pegasi. Ones which can survive through all sort of trouble, without ever losing any of their original fabulosity, and made from, shall we say, *unconventional* fabrics. Why, if you provided me with the required materiel, I'd even be willing to offer my services for free – provided, of course, that I receive some publicity for my efforts. A fair exchange, I'm sure you would agree. Now, the marketing campaign..."

In desperation, Will glanced around to her other side. Noticing the Director was looking at her pleadingly, Luna smiled, then gestured over to the rocket:

"Isn't it a little late to be making changes now, madam Director?" she began, immediately shutting up Rarity, thus gaining Will's eternal gratitude. It didn't even matter she was asking dangerous questions: "I would have thought these kinds of details would have been finalized a long time ago, no matter how insignificant."

Wilhelmina stood silent for a few moments, trying to determine the best way of approaching the goddess of the night. The other members of the Assembly were all easy to figure out. Celestia was a known unknown. But Luna, she had never met before, or even seen for that matter. Eventually, based on her prior experience with the other royal sister, she decided on the truthful approach:

"We've caught a last-minute mistake in the flight control unit. A possible divide-by-zero in the accelerometer system right after launch, to be precise."

"Divide by zero?" Luna chuckled, but kept her eyes on the swarm of tech-ponies as they worked the control unit, "I suppose that could prove troublesome."

“Well, it is an unpredictable situation. It might crash everything, or it might keep working just fine. Either way, it's a simple fix, so we're just making sure nothing can go wrong. With half the Assembly here and all.”

Luna nodded, but kept staring at the launch pad. Meanwhile, Will took advantage of the break in the conversation by taking another sip from her glass of impossibly-cold pearly water. Modern technology had plenty of advantages, but in some cases, magic was still the best.

“Why are you using electricity, anyway?” Luna resumed, “I understand your push for technological solutions whenever possible, but surely this is the one area wherein magic would prove far more efficient?”

“Oh, we did try using magic at first,” Will nodded, “but, upon a closer inspection, we realized magic is incredibly specialized. One has spells which make light, drain heat, purify water... they cannot solve a quadratic equation.”

“Well,” Luna took it as challenge, “With a bit of work, you *could* enchant, say, a piece of chalk, and then have it...”

“Of course, your highness, you are quite right,” Wilhelmina quickly conceded in the face of far-superior knowledge, not to mention authority, “But that could take months of careful preparation, and quite possibly some very arcane materials. And even after all that, one is still left with the problem of somehow feeding the result of your calculations to the physical control surfaces.”

“Hmm...” the royal sister paused briefly, obviously quite fascinated by the idea, “What about a network of counterbalancing enchantments? The vanes would turn according to which one was dominant at the time. Now, establishing a stable equilibrium would be...”

“I fully admit it's quite possible to do with magic,” Wilhelmina quickly conceded again, not wanting to upset somepony with so much influence over their budget, “But, if you'll allow me to argue, your highness, that would require a world-class enchanter to accomplish. You can see that even you, with your untold millennia of experience, are having trouble figuring it all out. On the other hoof, anypony can read off a blueprint and weld a few wires together, or even hammer out a triode when given enough training. Certainly a lot less elegant than your proposal, but also equally cheaper.”

“Naturally,” Luna nodded distantly, her imagination still captured by this new problem, “But doing this with just magic... you've put me on a dangerous path, Director. This one's going to keep me up all night!”

Wilhelmina had thought Luna stayed up all night anyway, being the Goddess of the Moon and all, but asking such a personal question would be highly inappropriate.

Leaving the princess to her thoughts, she turned back to the rocket. Seeing Sequine and Redstone argue over some pedantic – but undoubtedly crucial – detail in the plans made her even more uncomfortable than before.

Meanwhile, noticing her conversation with the princess was now over, Rarity began again:

“Now, I happen to own a specialized workshop just a short distance outside Canterlot. One cannot exactly call it a 'factory', true, but spacesuits are a small-volume order. In fact, hiring a larger concern might prove disadvantageous in this case, as they are too focused on mass production. Not that there's anything wrong with that, of course, but for the high tolerances required for space-flight, you simply need that personal touch. Something my workshop can quite easily provide.”

Wilhelmina looked around in despair, only to see Luna unreservedly tugging away at Celestia's shoulder. Mumbling something about the necessary paperwork in the general direction of Rarity, she kept staring in fascination at the sight of their immortal princess, the wisest of all ponies, eternal ruler for all ages, being treated in this most undignified way.

“Tia? Nth-order cascade propagation goes logarithmically, right? Right? Tia!”

Turning her head away from the pleading countess, the great goddess gave little regard to this most informal style of address. Quite the opposite, in fact: She became deeply lost in thought, considering the question fully. As she deliberated, Will shrugged. They were just sisters. Sisters can treat each other like that.

Even if they're omnipotent goddesses the very heavens bow down to.

Eventually, Celestia slowly nodded:

“Log base X to the minus N, yes,” she smiled, adding a wink, “Have fun calculating that.”

Seeing her turn back to the countess, Luna sighed deeply and rolled her eyes. Proceeding to levitate a quill and some paper out of seemingly nowhere – in reality, probably teleporting it from her royal carriage or something, Will guessed – she began to slowly sketch some complicated graphs and lay out scarily complex derivations, sometimes referring to a massive lookup table that covered another five sheets. After a minute or so of intense concentration, she looked back to the Director:

“Those electrics of yours – can they do logarithms?”

Wilhelmina's eyes widened. Redstone had been trying to sell some of the Cosmodrome's computeronic technology to the Royal Academy for ages now, never with any success. 'Too impractical', they said, 'Too complicated'. 'Quite unnecessary'. Now, if Luna herself were to use one...

She nodded quickly, then, glancing at Rarity and mentally shuddering, suddenly got a brilliant idea:

“If you wish, Your Highness, I can take you to the laboratory straight away. We have a wide range of prototypes, and you should be able to pick one adequately suited to your needs.”

“Really?” her face lit up with excitement.

“It would be provided and delivered absolutely free-of-charge, of course. You'd have full technical support from the designers themselves, available at all times by direct dragon-fire messaging; As well as a full copy of the operator's manual, and of Redstone's personal notes. I can guarantee somepony of your intellect will have no trouble whatsoever using the machine.”

The princess immediately jumped from her chair and began heading down the stairs, already thinking of the possibilities that automated arithmetic offered. As Will began to follow at a respectable distance behind, she noticed Rarity likewise preparing to leave. She promptly announced:

“Authorized personnel only, ma'am.”

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“T minus ninety minutes! Repeat, ninety minutes until lift-off! All visitors are reminded the Cosmodrome is not responsible for any incidental or accidental apprehension and detainment if you are caught entering unauthorized areas. Members of staff are reminded to carry their identification with them at all times. Please be conscious of permitted zones, thank you!”

Zvezda gritted her teeth as she fumbled through the large ring of keys, picking each in sequence and testing it inside the large steel door that loomed before her.

“Hurry up!” Sara anxiously urged her on, sheepishly glancing all around, “Quick! Before they catch us!”

Dropping the ring of keys from her mouth, Zvezda gestured towards the rocket, towering in the sky as the centrepiece of the launch complex, far behind them:

“Look. Everypony who's here is only going to be interested in one thing, and one thing only; Seeing that huge rocket fly up into the sky. The Commissar will be paranoid, sure, but with less than ninety minutes left, he'll also be interested in that one thing. If he's *really* paranoid, then maybe Stable VII as well. Either way, nopony's going to be paying any attention to a small insignificant hatch on the far side of the Cosmodrome. So calm down!”

Picking the keys up again, she resumed her attempts at unlocking the door. Around her, Sara marched back and fro:

“But what if they notice the missing keys? That's a big thing to go missing, you know. I'm telling you, this whole thing was a bad idea. I bet they're going to fire the lot of us. All they need to do is take one look at the security station, and-”

Spitting the keys out again, Zvezda turned around and stormed up to the violet unicorn:

“If it's such a bad idea, then just leave! I didn't tell you to come along, did I now? But if you show up at my quarters brandishing a ring of keys you've 'found' somewhere, what am I supposed to think? Now, are you going to help me, or not?”

The mare sighed, and, turning in the direction of the launch pad, sat down to act as a lookout for any approaching ponies. Satisfied, Zvezda went back to the steel door.

Three more keys later, the lock finally clicked. As Sara began to approach the door, Zvezda suddenly stopped her:

“Wait!”

Walking up to the reinforced-steel doorframe, she leaned in and examined its smooth surface. A few seconds of closer observation were all it took to reveal the minuscule pressure pad hidden there.

“Security system. There has to be another switch somewhere around here to disarm it.”

Sara raised her eyebrows in respect of her friend's skill, then the two began examining the surrounding wall.

The entrance to the hat-wearers' habitat was a strange one by pony standards, but the many months spent in this peculiar place had already made Zvezda regard it as completely normal: A small square door of polished steel, completely featureless save for a small keyhole – even the hinges must have been on the inside; Then again, that was fairly standard for most of the other blast-proof doors around here. It lay set into a sturdy steel doorframe, that in turn was built into the wall of a small concrete shack at the very edge of the Cosmodrome. And, unlike most of the bunkers that made up the facility, this one seemed to be located almost entirely underground.

*Well, either that, or there's a portal to hell inside.* Intrigued by the strange ponies' constant silence and peculiar clothing styles, as well as their possible connection to everything else that was going on behind the scenes here, Zvezda was prepared for anything.

After a quick search, they discovered a small metal box at the back of the shack; Trying the keys to either side of the original one, Zvezda quickly managed to open it. Behind it lay a rugged electric switch, a small rusted plaque covered in an alphabet she didn't recognize, and a glowing red lightbulb. Having examined the inside of the box for any further traps, Zvezda shrugged and flipped the large lever. The red bulb went dead.

There was a tense silence.

“Is it off?” Sara asked anxiously.

“I guess,” Zvezda looked at the switch again, “Only one way to find out.”

Circling the shack, the two mares stared at the foreboding steel door. Zvezda had seen it open plenty of times, the hat-wearers coming and going infrequently, but always from a distance, never able to make out the interior.

Turning around to get one last look at the rocket, Zvezda readied herself, then leaped towards the door – halfway through her parabola, she suddenly cursed loudly, then began fervently praying the door really did open towards the inside.

Fortunately, it did, and a few moments later Zvezda found herself in the entrance stairway of the bunker. Slowly – and a lot more carefully than her friend – following close behind, Sara peeked down the stairs with great uncertainty:

“It's pretty dark down there. You've got a torch?”

Zvezda cursed herself for not remembering to take one, then stopped; It wasn't such a long way back to Stable IV, and if they rushed, they could be back in less than five minutes-

*Hang on, this is stupid*, Zvezda shook her head. As strange as the hat-wearers might have been, there was no reason why they should also be brainless. Returning to the entrance, Zvezda looked around and quickly found the light-switch.

Seeing the stairway light up, Sara nevertheless remained hesitant:

“Why couldn't they have a window or two? I swear, this whole place was built by somepony who really hated Celestia.”

*Now that certainly didn't sound scary. Thanks a lot, Sara!*

“Come on,” she waved her head in the direction of the staircase. Looking at it now, in full light, she could clearly see the stairs weren't anywhere near as long or as foreboding as they had previously appeared;

In fact, they ended pretty quickly, forty short steps and then another steel door.

Carefully descending the stairs, watchful for any tripwires or pressure plates, Zvezda soon reached the bottom; Taking a single deep breath, she carefully pushed on the steel door. To her great surprise, it swung open almost effortlessly.

Looking around the antechamber, Zvezda was... disappointed. No fiery portals to hell, no occult summoning pentagrams, or even unholy altars covered in blood. Just a few ugly old couches, a table or two covered in crumbs, and a slightly torn carpet lying on the floor. Several magazines strewn around. A half-full trashbin in the corner. A clock on the wall. And, perhaps most disappointingly, a quintet of small light-shafts in the ceiling, illuminating the room with natural light. *Well, that kills that theory.*

“A lounge?” Sara grumbled in disappointment, blinking to make sure she was seeing correctly, “That’s it?”

Gesturing towards the three doors ahead of them – no longer the polished-steel bulkheads of the entrance, but simple wooden things, visibly aged, with their pale green paint starting to peel off – Zvezda shook her head:

“This whole place is underground; Just think of how much stuff they could hide in all this space. Now come on, we’ve only got eighty minutes left.”

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“T minus sixty minutes! Repeat, sixty minutes until lift-off! Weather squadrons are now reporting the winds have been stabilized to under one knot eastwards. Please report any unexpected gusts to the nearest member of staff immediately, thank you!”

Cherry stood before the wooden door, utterly petrified and unable to move. Not only was her heart beating rapidly, but she was also finding it difficult to breathe as she tried to steel herself for the upcoming encounter. As a result, she was left feeling slightly dizzy, and her thoughts were in even more of a jumble than they usually would have been.

There was still a chance. She could still turn around, go down the stairs, leave the observation tower, and...

And what?

And nothing. Turning around wasn't an option. Not anymore. Ever since her name had been publicly published as one of the Equestria Seven, it was a certainty this moment would come.

Her eyes focused. Her breathing deepened, her muscles flexed. She dug one of her front hooves into the wooden floor. That door was the final obstacle.

Let's do this!

Her hind legs tensed up, ready to pounce at the door. If she was going to enter, it would be in style. She crouched down.

Suddenly, there was a flash of light, and a fiery red pegasus in a frock and a top hat was standing in the doorway, a look of intense annoyance on his face:

"What the-"

Cherry, startled by the sudden movement, couldn't help herself. She jumped, keeling the unfortunate stallion over. After a brief bit of flurried commotion, she ended up leaning over him, as he lay on his back, panting.

Two guardsponies, one from each side of the door, rushed forwards from their posts. Cherry looked into the stallion's eyes. He stared back, amazed.

"Halt!" he commanded, and the guards confusedly stopped dead in their tracks. Meanwhile, the pegasi continued staring at each other, perhaps even more confused than the guards. Cherry sure was, at least.

"Hi!" she beamed, her scrambled brain unable to form anything longer.

The stallion continued staring at her, an expression of shock still on his face. His top hat had been kicked off his head and onto the floor, and Cherry noticed a few grey hairs in his black mane. *Come on now, it hasn't been that long! Has it?*

She continued beaming, struggling to keep her smile as wide as it had been originally. There still wasn't any reaction coming from the red stallion, not a word, not a movement, not a single change of expression.

Come on, dad! Say something! Anything!

He broke eye contact, then glanced around the observation deck, as if considering his most undignified position. The two ponies still hadn't moved since their initial ruffle, and what more, the guard stallions were now starting to give them disturbed looks.

"Get off," he uttered. Taken aback by the coldness of his voice, she hesitantly retreated. Grumbling, the old pegasus got back on his four hooves, put his top hat back on, then dismissed the two guards. After they had closed the door, he turned around, away from Cherry and out towards the immense rocket that towered in the noon sun.

"Seven months," he whispered, "Seven months. Not a single letter."

Cherry fought to fight back tears. There's no way it had been that long. Just no way.

"Can you even imagine what's it like?" he began intermittently, obviously also trying to maintain composure, "Having your own daughter just disappear off the face of Equestria?"

The two continued staring outwards, overseeing the busy launch pad below. Ponies were crawling across every square yard of the scene, dragging power cables, reading off checklists, inspecting the five sleek hulls of the rocket. In the surrounding podiums, there was even more commotion, as hundreds mingled excitedly, some chatting in small groups, others just staring at the technicians, or perhaps buying refreshments and souvenirs from one of the many traders. Anticipation was in the air, the launch was fast approaching. Cherry's eyes focused on all of this. It was better than looking at her dad.

"I've hired detectives, you know," he continued, breaking the silence, "Bribed dozens of officials. Even then, all I got were two sparse sentences a month. No details, no locations, just that you were still alive. I had no idea if they were true either, of course. But I had to keep hoping."

Down below, Redstone was shouting loudly at Sequine, gesticulating wildly towards a pile of schematics as he did so. A group of tech-ponies were standing a respectful distance away, carrying some water hoses, looks of confusion on their faces. One of them was Geist...

"Then, one day, all out of the blue, my gardener – gardener, of all ponies! – walks up to me in the grounds, and asks me if I've seen you in the newsreels. I almost fire her on the spot, but she swears on her life, it's really you. I jet to the theatre, shoving others aside on the way, and what do I see there? Your smiling face plastered all across the screen. Just like that."

"You think it was easy for me?" Cherry screamed back, tears now running from her eyes, "Stuck on a secret outpost in the middle of nowhere? Never knowing if I was going to see you again?"

But it was, she added silently, Oh, it was so easy!

No matter how true those words were, though, she knew she couldn't voice them. She had screwed up the past, she knew she had, but refused to screw up her future as well. She had to lie, no matter how it broke her heart.

The old stallion didn't appear to pick up on any of that, though; And if he had, he pretended not to. Turning around on the spot, he looked at her, and saw the sweet, if sometimes simple-minded, Cherry that he knew and loved:

"You couldn't have sent one letter? Just one?"

Walking up to him, Cherry put her head against his neck, tears streaming across her face and into his mane. *You knew you could have. But no. Had to live in your own special bubble here, didn't you? Not even aware the world was still going on around you.*

"You saw it yourself, dad," she got out between sobs, "All that security everywhere. Commissars and passwords and bunkers and..."

"I know, I know," he hushed her. *Oh, if only you did! You wouldn't be talking to me like this, that's for sure!*

"I just didn't want you to remember me as the pony who slammed the door in your face."

This caused Cherry to erupt into a new flood of tears. *I'm so stupid! Why couldn't I just forgive that? I am really that petty?*

"You should know, me and ma will support you always, no matter what you do. I just wished you had picked something a tiny bit little safer..."

The two remained immobile for a while, each lost in their respective thoughts. Cherry still remembered that night as if it were yesterday. Fed up with her dad's protectionism, she walked straight into the Bureau of Internal Security and volunteered herself for undercover recon. Her father... wasn't happy.

After some indeterminate measure of time, she realized something:

"Where's ma, anyway? And Rosie?"

Dad sighed deeply, and remained silent for a while longer:

"Poor little Rosie. She's just like you, always wanting to fly no matter what we tell her. One day, she just wonders up to the edge of a cliff, and jumps right off."

Cherry's grip strengthened. Her eyes widened as reality began slipping away from her. *Are you telling me-*

Realizing how his words could have been interpreted, her dad quickly resumed:

"She's alive, don't worry! Broke her legs, the poor thing, but she's doing well now. Ma's with her in the hospital."

Cherry couldn't believe what kind of hell the old stallion must have been going through, almost losing both his daughters; How could he be just standing there and patting her on the back? *Doesn't he realize it's all my fault?*

"It's OK now. I've got you both. You're both fine."

After a while, she managed to regain herself. Lifting her head from his shoulder, she looked him in the eyes. He smiled softly at her.

I'll never do something like this to you again. I promise.

She wanted to say it. So much.

But she just couldn't. For all the love she had for her father, she couldn't just give up her dreams of space. Not after all this.

"It's alright, Cherry," he seemed to understand the silence, "Don't worry about me."

He turned around and, facing the rocket again, approached the edge of the deck. A few seconds later, she walked up to his side.

"Can we watch the launch together?" she asked. Her mind still couldn't quite accept the situation. *He's going to forgive me, just like that? No screaming, no rage, no nothing?*

He looked at her with surprise, "Why not?"

I have the best dad ever.

~~~~~

"T minus ten minutes! Repeat, ten minutes until lift-off! Vehicle integrity tests are now complete. The blue team will begin vacating the pad area."

Her ears ringing from the loudspeaker blaring just five yards away from her, Lyuka gave the black box an evil stare. Considering just how quickly it had been thrown together, the system had behaved rather well, but still had a few kinks left to work out.

Redstone nodded to her as he walked up to the edge of the launch pad, then, checking his entire team had already left the elevated concrete platform, took one last look at the rocket and set out after them.

Only Lyuka and Sequine were left on the pad now. Well, them and the rocket, obviously. Even though it was an inanimate object, Lyuka couldn't help but think of it as something more. Trotting up to one of its five massive engine bells, she ran her hoof along its surprisingly-cold steel structure:

"It's just you and me now, girl. Just you and me."

The five great cylinders remained silent.

"I know it's going to be a big day for you. But you know what? You can do it. Just don't rush, take deep breaths, and don't panic."

The giant vehicle stood utterly immobile. Lyuka smiled.

"The open sky!" she whispered, running her hoof along its elegant winglet assembly, and feeling the pressurized hydraulic lines flex softly in response. Over the course of these past few months, the vehicle had stood at the centre of all the worry, joy, and love the ponies of the Cape had felt. Alive or not, nothing material could absorb so much raw emotion and remain just a machine. It deserved a proper goodbye at the very least, Lyuka thought.

She quickly glanced around. The large semicircular podium behind her was completely full of ponies, all settling down to watch the grand event. *Not the best place.* Trotting over to the other side of the rocket, she approached the shielded space between two control winglets. Thusly shaded from anypony's curious eyes, she gave the rocket nozzle a long passionate kiss. It was a bit slobbery, but the rocket didn't seem to mind.

Suddenly realizing Sequine was standing next to her, Lyuka quickly backed away; Not quickly enough, obviously, as the pale unicorn gave her a highly questioning look.

"What?" Lyuka asked indignantly.

"Is rocket."

"Can't a girl have a little privacy?"

"Is rocket."

"I can kiss whoever I damn well please!"

"Pony," Sequine insisted, as if explaining the concept to a dumb, confused foal, "Not rocket."

"Well, it's got more personality than most ponies I know!"

The unicorn paused as she mulled the idea over. Eventually, she just rolled her eyes, snorted, then proceeded to walk away, as if insulted.

*I bet she's just jealous*, Lyuka smirked, then turned back to the rocket. They still had a few more minutes.

~~~~~

“T minus five minutes! Repeat, five minutes until lift-off! The red team has vacated the pad. We now have confirmation the flight control unit has initialized correctly, and that all systems are go for launch.”

Sitting on the roof of Stable VII and looking out towards the rocket complex, Zvez and Sara sipped idly from their bottles of cool apple juice. The view was a bit distant, but nevertheless sufficiently clear, and either way it was much better than sitting in the stuffed podiums with hundreds of other ponies breathing down your neck.

“Well, *that* was a bust,” Sara spoke into the air, wiping some sweat from her forehead, “Thank Celestia we didn't miss the launch.”

Zvezda couldn't help but nod. Though they had come across a few intriguing locked doors, the majority of the hat-wearers' bunker was nothing more than empty corridors, mess halls, bedrooms, and the occasional bathroom. It was about the same as their own Stable IV, really, except a bit colder – probably because it was underground – and also significantly more aged.

“Why do you suppose they're so secretive, then? All those dark bunkers and hats and everything,” Sara floated the obvious question. Zvezda shrugged:

“Who knows. Maybe they live here. I heard these buildings are a lot older than the Space Programme, that the Director's just loaning them from the state or something; Maybe these ponies are the caretakers.”

“Maybe,” Sara sipped from the refreshing bottle again, “Who knows.”

That strange writing she had seen on the warning sign still puzzled her, though. No matter how much she tried, she just couldn't recognize any similarities with any other alphabet she had ever seen. Not that she was a linguistics expert or anything, of course... but that was nothing a few visits to the library couldn't rectify.

“T minus four minutes!”

The books would still be there tomorrow, though. For now, there was an exciting fireworks show to watch.

~~~~~

“T minus three minutes! Repeat, three minutes until lift-off! Entering last countdown hold.”

Wilhelmina looked around the launch control platform. Feeling the concentrated gazes of the two princesses and at least a dozen members of the Assembly burning a hole in the back of her neck, she nevertheless cleared her throat, then looked across the deck; The other four Chief Designers were all here, standing to attention around the long central table that oversaw the rocket, home to plenty of diagnostics equipment and many bundles of thick cabling. Amidst all this, Sequine was continually throwing weird glances to Lyuka for some reason. Disregarding this small detail, Will marched up to the table and posed triumphantly:

“Final status check!”

“Downrange clear,” Sunny began, “Evac zones, clear. Weather, confirmed stable. Pad is go.”

“Computer, go.”

“Launch capacitors charging,” Redstone reported, intently scrutinizing the dial of a large clunky voltmeter lying on the table, “Ignition, go.”

“Booster, ready,” Lyuka finished off. Again, Sequine rolled her eyes.

Wilhelmina looked around. From a slightly elevated position right behind them, Celestia and the rest were all watching in anticipation. Noticing her gaze, Celestia smiled at Will. Thusly encouraged, she faced the rocket again and quickly nodded.

“Launch is go.”

The announcer pony, straining her ears to catch those long-awaited words, immediately began speaking into the microphone:

“Chief Designers' poll has now been completed. The Pad Führer has given final confirmation, and Cape Coltaveral is go for launch. I repeat, we

are go for launch. The mission clock has been set to T minus ninety seconds, and we're counting down!"

An applause from the spectator podiums slowly began building all around them, the fervent stampeding of hooves and excited yells filling the air with excitement, as well as managing to shake their wooden platform slightly. At the back of her head, Will prayed those hastily-assembled wooden podiums wouldn't collapse from all that added stress. Now *that* would be an embarrassing end to the program.

The announcer, flipping a page in her notebook, began reading out the next lines:

"T minus eighty seconds. All visitors are advised, in case of emergency abort, the assembly areas are located to your-"

It was useless. No matter how hard the speakers strained, amidst the deafening applause they were left unheard. Looking up from her microphone, the announcer pony gave the Director a hopeless shrug. Will just smiled back, and waved it off. The emergency procedures were pinned up all around the place anyway.

"Seventy," Redstone commented, reading off his perfectly-synchronized stopwatch, his hoof hovering over a large button on the desk.

Will just closed her eyes and took in the atmosphere. The applause was dying down now, but it was rapidly becoming replaced by a tense, contemplative silence.

"T minus sixty seconds!" came the booming voice from the speakers. On-cue, Redstone pressed his button, and with a soft hum the main control console powered up.

Wilhelmina looked at the beautiful device. Unlike the single-button jury-rigged contraption they had used for their last launch, this was a thing of beauty. Made from precision-machined steel and polished chrome, the small pedestal just radiated futurism. A single circular dial – the ignition capacitor voltmeter – took up most of the control panel, with three large brass levers directly underneath. Even the ugly thick cables connecting it to the rocket had been taken care of, carefully tucked away under the Chief Designers' table so that they wouldn't spoil its expensive aesthetics.

Yes, it was a complete waste of resources. The money that had gone into that thing could have fed fifty hungry foals somewhere in cold streets of Stalliongrad, or supplied a charity clinic for a month.

But the same went for all the money that was going into the Space Programme. They were in this for the long run, to the eternal benefit of all the coming generations, not for immediate gratification. And Equestria's leading scientific agency could not afford to be seen as backwards and jury-rigged.

Plus, it just looked *so pretty*.

“T minus fifty seconds!”

Will placed her hoof on the left lever. She could flip it with telepathy, sure, but doing things by one's own hooves was just so satisfying. Especially flipping large brass levers.

“Forty five... mark!” Redstone shouted, and Will flipped the switch.

In a minor, but nevertheless quite dazzling display of pyrotechnics, the last few cables that had still connected the rocket to their groundside batteries and sensors were all blown off. As the spectating ponies applauded yet again, Will surveyed the plummeting cables carefully. *Good separation, no snagging bits, nothing tangled... looks good from here!*

“T minus forty, vehicle now switched to internal power.”

Turning around, Wilhelmina looked once again at the attending rulers of Equestria. Even the Duchess of Hackney, that great sceptic of the program, seemed enthralled by the incredible display of technological prowess and pyrotechnics. Will smirked:

*You haven't seen nothin' yet, Duchess.*

“T minus thirty for the launch of the Quinta cluster-verification vehicle, and all systems are still good for the count. The rocket looms, as patiently as ever, ready to cast itself unto the sky, and unto history! Atop its central hull, softly cradled in the payload compartment, the prototype heatshield, painstakingly cast by the finest metalsmiths of Equestria, awaits its chance to-”

Wilhelmina, turning about again, gave the announcer a harsh look. She was obviously just going off the cuff now, probably caught up in the fervour of the launch, and her drawn out commentary certainly wasn't helping anything. Meanwhile, Redstone waved his stopwatch urgently. Will's breathing quickened as the thought of missing the countdown passed through her head.

*Come on, we can't fail now! Not after all this!*

Thankfully, a shy assistant, also noticing the time, quickly prodded the announcer on the shoulder. She took one glance at her own stopwatch, then, stopping mid-sentence, quickly returned to the script, improvising slightly to catch up:

"T minus fifteen seconds, ignition capacitors now confirmed fully charged. Launch systems unlocked."

Realizing it was now the rest of the team that was giving *her* the harsh stare, Wilhelmina quickly flipped the lever on the right side of the console. A small green bulb above the central switch lit up. This was it.

"T minus ten. Nine. Eight."

Will's breathing was slowing down now. Hopefully, that brief confusion had been the mission's bug.

"Seven. Six. Five."

They had fixed so much. Burn rate problems? Check. Control unit crashes? Check. Ignition systems? Double-check. They had left nothing to chance.

"Four."

Or had they?

"Three."

Her hoof shook wildly as she hovered it above the central switch.

"Two."

"One."

“Zero.”

With all her might, she pulled at the massive lever. Responding with a single loud click, the relays inside the launch control platform triggered, sending a massive outburst of electrical energy pouring through the thick cables, straight into the hexagonal arrays of the twenty-five redundant spark-gaps installed directly under each of the five engines.

For the briefest millisecond, nothing happened.

And then?

Then, there was light.

The immense flare of the five motors igniting in perfect harmony sent a sharp spike of pain running through Wilhelmina's eyes. The sudden shockwave of sound and sand that followed was harsher still, throwing her off her hooves and temporarily deafening her.

As she careened towards the rough wooden floor of the platform, there was only time for one thought:

*This isn't-*

~~~~~

Holding her father in a tight embrace, Cherry's initial reflexive action threw both of them towards the floor. As the sudden shockwave shook their observation platform, she grabbed his hoof, then made into the air.

Screams of anguish were coming in from all around them. The PA system was in chaos, powerful feedback resonating through its speakers, bouncing all around the pad and quickly picking up in volume. The ground shook underneath the two pegasi as searing white fire erupted from the centre of the launch pad.

Where are those emergency instructions when you need them!

Shielding her eyes, Cherry first made sure her father was alright – though the stallion was old and made comfortable by years of sitting behind a desk, he was still of the Skies family, and was keeping up close behind – then tried to make some sense of the situation. A powerful fiery roar echoed all around the podiums and launch facilities, making it impossible to

determine just where it was really coming from. Meanwhile, vast columns of sand and smoke, kicked up by the initial explosion, were blocking visibility everywhere below; Cherry coughed as some of it got into her lungs.

The chaos and thick smoke made all her senses useless. The two hovered above the swirling sea of desperate screams and frightened crying, unable to see anything but blurred dark outlines, and even less able to do anything. The sheer helplessness was frightening.

Following her father's urgent gesticulation, she glanced above, only to spot a bright flickering light rapidly fade into the distance, advancing on its way into the heavens. She looked back down at the giant tower of white fire, still immobile, continuing to roar in the centre of the pad and growing in height.

Just what the hay's going on?

~~~~~

"Applejack? Twilight? Pinkie?" Rainbow wanted to scream at the top of her lungs, but all she managed was a crackled whisper; The heavy smoke and hovering sand were making it just as difficult to breathe as it was to see.

Tears streaming from her stinging eyes, she blinked rapidly in a vain attempt to clear them. Finding that useless, she gave the air around a few powerful bursts from her wings, trying to stir it up and give her some space.

No such luck, however. The manoeuvre just made the smoke even more turbulent. She glanced upwards, but despite every fibre of her body screaming at her, refused to take off. Instead, she continued to look around. Ascending a few hundred yards might have made it easier for her, but she knew all too well her friends had no such option. And, with so much smoke suspended in the air, trying to spot them above would be worse than useless.

No. She had to stay.

A brief coughing fit later, she noticed a vague outline of what could have been a podium just before her; Once more cursing herself for trying to follow the rocket from the air, she set off towards it, feverishly praying Applejack's stand was close nearby.

There was an intense dry sensation at the back of her throat, growing harsher with each breath. Trying to suppress her gag reflex, Dash picked up speed as she approached the shadow; Only to slow down again as, seeing the green stripes painted across its wooden supports, she realized it was the base of the *other* podium, at the opposite side of the pad.

Her eyes were seriously stinging now. She briefly glanced again at the murky sky above, only to be knocked to the ground as a group of panicking ponies stampeded right past her.

Trying to pick herself up from the ground, she collapsed into yet another coughing fit. *Just what kind of smoke is this?* she wondered, suddenly remembering Redstone's many lectures on the various toxic substances employed by the rockets. Were her lungs being shredded to pieces right now? It sure felt like it.

Not that it mattered. Any worries about permanent medical consequences could wait until tomorrow. For now, her friends were still out there, probably panicking and lost, with no idea of where to go.

*Come on, be of some use for once, stupid girl!* she screamed at herself as she lay uselessly on the hot sand. With a sad smile, she noticed its usual yellow was now mixed and contaminated with a fine grey dust that seemed to stick to everything.

Steadily breathing in through her nose, she slowly got back on her four hooves, then turned around and began advancing towards Applejack's stand. The sight of the podium had given her the necessary bearings. All she had to do now was circle the entire launch complex.

Even behind the swirling dust and smoke, the giant tower of fire at the centre of the pad was still bright enough to hurt her eyes. Wondering just what the hay was actually going on behind all that searing light, she slowly continued walking forward, taking each step with great concentration. Even if she were to decide to fly now, the smoke had already taken its toll, and her wings dragged uselessly behind her. Even folding them would constitute too much of an effort.

Blinking ardently at the vague silhouettes fading in and out of visibility in the distance before her, Rainbow continued along her long march. Occasionally, a random pony would gallop past her, possibly yell something, then quickly fade into the thick fog again.

Even if she wanted to, she could pay them no heed. All her efforts now concentrated on trying to keep to a straight line as she put one hoof before the other, praying to Celestia that she wouldn't stray too far off the path.

*Huh. Celestia. Wonder what she's doing.*

~~~~~

“Will? Will! Come on, wake up!”

Lyuka patted her superior's cheeks with little success. Though none of their little group had ever been especially fit, Wilhelmina had always been even weaker than the others, her below-average height and paler colour more indicative of her health than other ponies would normally assume.

And now, she was lying unconsciously on the wooden floor, refusing to wake up. In desperation, Lyuka glanced around:

“Can I get some water?” she screamed pleadingly.

To little effect, of course. Redstone and Sequine were rushing through their thick binders, turning the pages impossibly fast in desperate attempts to gain an insight into what was happening, and how to stop it. Sunny, meanwhile, was trying to calm the panicking bureaucrats and Assembly members, hopefully into something less resembling a screaming riot.

And at the centre of the platform, Celestia towered above the rest, her wings extended and eyes tightly shut, with front hooves firmly dug into the wooden floor as a giant glowing aura of light surrounded her horn. Only she herself could know what she was doing, but it probably involved fighting intensely to keep the situation from becoming even worse.

Looking around, though, Lyuka found that hard to believe. Everything was in chaos. What had been the shining beacon of Equestria's scientific prowess just two minutes ago, had now been transformed into hell itself. Even Wilhelmina's much-beloved launching console now lay turned over, ripped cables uselessly sparking but a few yards away.

Not seeing any way out, Lyuka turned back to her old friend. Shaking her once again, she screamed at the pale green unicorn to awaken. She had probably lost everything else by now. But not this! Never mind the stupid rockets, let them burn, just let her friend survive!

It was of no use. Devastated, Lyuka looked once again at the surrounding scene. She glanced towards Celestia again.

Save us from this nightmare, princess, she prayed silently, Please.

Seeing the goddess strain under her great feats of magic, however, sweat running down her face as her ethereal mane gradually dimmed, Lyuka had little hope that would be the case.

She took one last look at the giant unnatural column of fire, now at least a thousand yards tall and still growing, that towered at the centre of the launching pad. Its incredible presence dwarfed everything around her. In fact, continuing to stare at it, Lyuka was pretty sure it dwarfed anything ever made by pony hooves.

Well, that's one record broken for sure.

Can't say we failed completely.

Chapter 10

Planetbound

A flash of light. Distant shouting. A sharp pain in her legs.

Groaning, Zvezda opened her eyes and tried to focus at the scene around. Save for a lot of black blurs, she could see nothing at all.

“....something! Come on, Zvez, please!”

A sudden blur swished past in the depths below, and she got a sudden sense of vertigo. That was one tall drop.

Slowly realizing she was lying on her back, halfway buried in the sand, and staring out not into a bottomless pit, but a darkened sky, a sad smile appeared on her face. Gathering up enough energy, she swung her hooves around to upright herself.

Still lying in the sand, albeit now the correct way up, Zvezda paused for a second to catch her breath, fighting back the urge to throw up. Meanwhile, a bright purple blur wondered into her field of view, and, with a sudden squeal, jumped to hug her tightly:

“Zvez! Thank Celestia you're alright!”

Uncertainly patting her friend's back in response, Zvezda subtly nodded, but didn't say anything.

“Here, have some juice, “ Sara tore away, then offered up a bottle.

Accepting the drink with infinite gratitude, she proceeded to quickly gulp down until not even a drop remained. Throwing the empty bottle away, she shook her head.

“You better now?”

Zvezda wasn't really sure. Her motor control were slowly coming back to her now, and she could even make out her friend's face. But something

was still wrong. The swirling sea of black around them refused to disappear. And so did the screams.

Slowly getting up on her hooves, she chuckled at these hallucinations. *I mean, I know my subconscious was all kinds of wrong, but this? Wow.*

“Come on!” Sara pushed on her shoulder, trying to steer her around, “We've got to get out of here!”

“Get... out?” Zvezda dug her hooves down, defying Sara's attempts to commandeer her, “We've got to go watch the rocket! Where's the rocket?”

Sara stopped. After a moment of silence – interrupted only by the subdued shouting constantly going on in the background – Zvezda began turning around, intending to interrogate her friend until she got some answers.

Halfway through, however, she stopped. Staring at the giant unbroken column of light before her, stretching all the way into the sky, her eyes squinted to adjust to its brightness. The tower was in constant flux, tiny tongues of flames constantly erupting from its sides and coiling back in like a million fiery glowing snakes. But where was the-

Oh.

She didn't say anything, but the look on her face must have been revealing enough. Patting her across the shoulders, Sara sadly gestured somewhere into the distance:

“Yeah. Train station's that way.”

Meanwhile, Zvezda remained still, utterly fascinated by the sight. In a way, it was almost beautiful. Upon closer inspection, one could even see the air shimmering and distorting around the edges of the pillar, as if refusing to touch it...

“That doesn't even make sense,” she began, “That's got to be at least a mile high. None of our fuels hold half as-”

“Who cares?” Sara yelled desperately, “It's a giant growing tower of fire! We've gotta get to the trains!”

Zvezda scanned the cloudy smoke around them. Off in the fading distance, she could just about make out the vague silhouettes of ponies wondering around, obviously lost. Some loners, others in small groups. A few of those groups even had small foals with them, either galloping on their own or being carried.

“We've got to help-”

“We can't help them, Zvez!” Sara screamed into her ear, “Especially not if we're dead!”

Zvezda stared at one particularly sorry-looking group; a young mare desperately dragging herself across the sand, wheezing heavily and often stopping to catch her breath. Around her, a tiny filly jumped, trying to pull her onwards. Looking back at her friend, she began again:

“But they-”

“Get it through your thick skull, Zvez! We're not heroes!” Sara slapped her across the face, “Think of *your* family! Friends!”

“I am,” Zvezda gritted her teeth, “And I know they'd rather have me die helping others than get out and save my own skin.”

She tried to set off towards the young mother and her child, but Sara grabbed her tail and made her fall over:

“Can't you smell the air, you stupid mule?” she screamed as Zvezda got up again, “Unless we get out of here pronto, we'll keel over and die choking! Just like her! You can't save them!”

Zvezda turned around to her friend. She then glanced back at the poor mare, now immobile in the sand, her tiny filly desperately prodding her mane in disbelief.

“I've got to try. Sorry,” she smiled to her friend, then galloped off into the thick clouds. Craning her neck, she saw Sara's distancing silhouette stand still for a few more seconds, continuing to stare straight forward, then shake her head and gallop off in the opposite direction.

Zvezda rolled her eyes. Despite the unicorn's constant complaining, she had honestly thought that, deep inside, Sara was a proper pony.

It's only in times like this you really find out, isn't it?

Approaching the mare, she quickly began examining her for injuries. She looked dangerously pale, but her chest was still moving up and down. There was still a chance.

Meanwhile, the little filly at her mother's side looked up. Recognizing the staff badge hanging from Zvezda's neck, her eyes brightened up, and a look of exhausted relief spread over her face. She was saying something too, very quickly and in a high-pitched excited voice, but amidst all the distant shouting and the constant hum of the tower, trying to make out individual words was quite impossible, as they all seemed to slur together.

Hang on, wasn't I talking just fine a second ago?

Dismissing the thought, Zvezda spared the filly a momentary reassuring smile – intended as much for the child as for her personally – then, grunting, began trying to throw the unconscious pony over her back. Jumping all around, the little foal tried its best to help.

But it was of no use. No matter how much she tried, she just couldn't get the mare to balance on her back. Suddenly feeling dizzy, Zvezda keeled over into the sand as she fell into a prolonged coughing fit.

The world began growing darker all around her. In the distance, she could hear the little filly crying.

Sorry, kid. Guess I'm not a hero after all.

~~~~~

Rainbow continued walking forward. All around her, thick clouds of smoke hugged the ground, slowly swirling around. Glancing at her hooves, she found her once-azure skin had now been tainted almost entirely grey by the omnipresent choking dust. Behind her, the giant tower of fire continued to blare, its deep roar underlining everything that went on.

It didn't matter. She kept walking.



Steadily breathing in through her nose, she put one hoof before the other, advancing ever onward. Her throat now felt completely dry, and a strange creeping sensation was gradually extending through her chest.

It was all absolutely insane. A year ago, she might have just given up and collapsed onto the sand, letting the clouds engulf her. No pony had the right to be subjected to something like this.

But today, she kept walking. This entire thing was insane. Going into space? Pushing the final frontier? Rainbow always had known it'd be no easy thing.

This was just another challenge. Another step on the ladder into history.

And she'd climb that ladder, oh yes. She'd become the most famous pony in all of Equestria's history.

*Celestia's champion. Destroyer of ancient gods. The founder of a new age.*

*That's me, alright.*

What were a few dumb clouds in comparison? Nothing, that's what.

Pausing briefly as a terrible pain flared up in her chest, she reconsidered the idea.

Right, maybe it wasn't just nothing. Not that it mattered anyway, of course. This particular situation was exactly as impossible as what she'd gone through before, right? Shouldn't be a problem.

She kept walking. Despite her drowsiness, her thoughts seemed to race faster than ever. Then again, there wasn't much to look at with all this smoke around; the only even remotely interesting thing, the giant tower of fire, was directly behind her. Kind of boring when you really got down to it, really.

*Yeah*, she thought as she almost stumbled on a small rock in her path, *That's what this is. Boring.*

*I wish Pinkie was here.*

Unfortunately, there was no sign of that brilliant pink pony. Nor of any of her friends, for that matter. Strange, it's been quite a time now. Briefly wondering whether she had lost her track, she looked back to the tower of fire, then, realigning herself, turned slightly to the left and continued.

After some more time, she paused again, just to catch her breath. Even her slow pace was proving exhausting now. What a bummer.

She grinned to herself, like an utter idiot. That's what she was being, after all, wasn't she? She should have made to the sky when she had the chance. She knew where Applejack's stall was, after all. The tops of the podiums would have stayed above the smoke. She could have used those to find her friends almost immediately.

But no. She just had to find them on the ground, didn't she?

Rainbow turned her head to the sky as another idea crossed her idle head. Her friends probably weren't even there any more. Twilight was smart, she'd have figured something out and gotten everypony out. That's if she wasn't saving the day right now, of course. Her great journey was turning out to be a complete and utter failure, and she had nopony to blame but herself.

*Regrets, regrets. Useless now, anyway. What's done is done. The only thing you can do is shrug and keep going.*

*Keep going.*

*Just keep going.*

She kept walking.

~~~~~

“What about plan... five?” Redstone hurriedly suggested, quickly fishing out the appropriate paper from the scattered sea of sheets all around them, “Monoxide purge might be bit risky, but otherwise-”

Lyuka spared the suggestion only a few seconds:

“And how do you want to set up a high-pressure pump in this?” she screamed, gesturing to the smoke all around, “Those ponies are choking to death! They can hardly operate precision machinery!”

“Alright, alright,” Redstone kicked the paper away and sighed deeply, “Just idea.”

To her other side, the Duchess of Hackney was as furious with Lyuka as she herself was with the professor. Stamping up to her, she opened up into her face:

“Don't you have *any* feasible emergency plans? Not one that isn't restricted to a ridiculously small subset of situations?”

“Well, I don't even know what the hay just happened!” Lyuka shouted back, gesturing to the large column of fire at the centre of the facility, “That thing shouldn't even be physically possible! Excuse us for planning within the confines of laws of physics!”

“Well, it *has* happened, has it not?” the Duchess remained adamant, “So it obviously must be possible.”

“Can you all please stop shouting?” Rarity slowly got out through her gritted teeth, her horn glowing as she strained to keep up her spell, “I'm trying to keep us all alive here.”

Lyuka quickly quietened down, then glanced around the faint blue hemisphere that dimly shimmered around the launch control platform, enclosing all the Chief Directors, Celestia, as well as the gathered members of the assembly. It wasn't exactly big, but it definitely was useful. Whoever had thought that silly mare could actually come in handy?

Smelling the minty fresh air again, she spared the unconscious Wilhelmina a worried glance. The minister of agriculture – the only bureaucrat Lyuka trusted even remotely – was at her side with a bucket of water, trying to nurse her back to her senses.

Yeah, I'm sure she's real proud of you right now, Lyuka, her conscience tugged at her as she looked around their shielded platform again, helplessly observing the black clouds swirl slowly beyond it, *The bourgeoisie enjoying nice-smelling air as the commoners choke?*

She shook her head. *We're the leaders, though,* another part of her head opened up, *We need to stay at full capacity, to organize the rescue plan and save everypony. We deserve the clean air.*

Even if they did, though, they certainly weren't using it very efficiently. Around her, Redstone, Sunny, and Sequine were sorting through the stacks of emergency plans that covered everything from a T-minus sixty abort to an ignition system misfire; all woefully inadequate for what was actually going on.

"This is all useless," Sunny suddenly declared, kicking one of thick binders away from herself and outside their protective bubble, then gesturing towards the giant tower of fire, "None of us even have an idea what that thing is! How can we possibly find an emergency plan for dealing with it?"

"That's not what we're trying to do here, is it now?" Redstone looked up from his papers, "We're trying to find way of clearing smoke away before it kills everypony. Aren't we?"

"And what about that giant pillar of fire towering over everything, then?"

"Is safe to ignore."

"What?" Sunny yelled out in disbelief, "How-"

"Is just being fiery. Not actually doing anything," Redstone shrugged, "Besides, Princess obviously has it covered."

Lyuka spared a glance towards their esteemed ruler: She was still straining in her grand feats of magic, her celestial mane still dimmed, but seemed to slowly be overpowering whatever it was that she was fighting. Her movements looked slightly off, though. As if they were being played through a poor film projector that skipped half the frames.

Stupid magic, Lyuka scoffed, *There's a reason we don't use it in our rockets.*

"Wait. So, are you telling me I just wasted the last ten minutes doing nothing useful?" Sunny slowly continued.

Redstone nodded uncertainly. One angry helpless groan later, the chief designer turned back to sorting through the binders, and the professor followed.

“We're all clear on that, now, right? Right, everypony?” Lyuka tried to reassure herself, “Get rid of all the smoke. Nevermind the giant tower of fire.”

A tired nodding was her reply. Well, from the chief designers, at least. The Duchess was less pleased:

“You are all just wasting time on utter incompetence! Honestly, I had my doubts about your leadership, but I never knew it was *this* bad!”

“Well, what did you expect?” Lyuka suddenly snapped, “We're engineers! Professors! This... this... insanity, it's way beyond any of us!”

“In that case, I'd advise you to get better,” the Duchess stared, “Fast.”

“This is incredibly complex situation!” Redstone stepped in at their defence, “Thousands of mutually interacting variables! One bad move, and-”

“Every second spent doing nothing *is* another bad move, Professor.”

Lyuka was about to ridicule her, then stopped. The Duchess might not have known much about rocketry, but certainly knew her way around leadership. *Unlike some ponies*, her conscience snapped at her, *Who put you in charge anyway?*

“What those ponies out there need, right now, is reassurance. At least a vague prospect of a happy ending. The actual plan can wait for later, but right now, we need hope.”

Lyuka quickly nodded, then trotted over to the announcer microphone at the other side of the platform, just at the edges of Rarity's shield. She examined its circuitry, and a feeling of cold dread fell over her. The primary resistive membrane lay torn in half, uselessly fluttering in the wind.

She distinctly remembered tearing it herself, just five minutes earlier; in a desperate attempt to shut up that infernal high-pitched feedback noise filling the entire facility, she kicked one of her thick binders straight through its delicate assembly. Even now, the power switch was staring at her, silently mocking her.

“Not to push you, Director, but what's taking so long?”

~~~~~

Geist had long since given up on everything. Lying in the desert sand, choking profusely as the world gradually dimmed around him, he desperately wished to be back in his quarters in Stable IV. Perhaps enjoying a nice glass of water.

*Yeah, some water would be nice.*

He fell into another coughing fit.

He never imagined himself going like this. If he was going to die, it'd be rescuing Cherry away from a malfunctioning rocket, sacrificing himself so that she might live. Or perhaps heroically stopping a chemicals leak before it poisoned everypony on the Cosmodrome.

Not like this. Alone and unnoticed, lying uselessly in the dark. No pony else seemed to be paying any attention to him; the scant few that galloped past seemed to be too busy with saving their own hides, or urgently carrying random pieces of equipment somewhere.

*Oh well. You signed up for this. No pony to blame but yourself.*

It wasn't fair. The Director had promised them so much. That, in their lifetimes, they'd see a mare walking on the surface of the Moon. That, if they worked hard enough, they'd get promoted to a design board, free to let their imagination run wild and draft distant dreams that'd soon get turned into reality.

And he had worked hard. Oh, so hard. The endless nights spent finishing up some design document, debugging an annoying circuit. And what did he get in return? Even more work, even less resources. Designing the flight simulators, forced to make do with almost no money and literally no specialist equipment.

He didn't want to go like this. Angry, resentful, full of regrets.

But there seemed to be no other way.

Darkness fell over his face. The air around him grew colder.

This was it.

With a rushing sound, a gust of pure air rushed into his nostrils. The sudden burst sent him into another fit.

A different kind of fit, though, he soon realized. The clean cool air rushed through his lungs, dislodging impurities and forcing them out of his body. Spitting out a ball of black slime, Geist wondered just what the hay was going on.

Feeling returning to his body, he tried looking upwards. Everything was blurry, as if... a thick plate of smudged glass was covering his eyes.

Then, as quick as it had arrived, the clean air was gone, and the scorching heat was again playing all over his face. Instinctively holding in his breath, he looked around, vision suddenly clear as the glass visor was removed.

Before him stood a dusted earth pony. Her mane, full of sand and dust, seemed comically distorted into a strange bubbly shape. So was her tail. Underneath all that grey that seemed to stick to everything, Geist couldn't even make out her original colour, never mind her cutie mark.

Breathing deeply from a strange-looking mask that she was holding over her nose, she grinned at him. Stuffing the mask back into his face, she opened up:

“Surprise!”

*What.* Geist was hallucinating. His brain was too deprived of oxygen. That was the only possible explanation for this.

“Hi! I can't believe I actually found an actual tech-pony in all this mess!”

A puzzled look fell over Geist's face. He had so many questions. *Who the hay are you? Where the hay did you come from? What the hay are you doing here?* But the pony continued:

“When I first saw this suit, I just knew I had to take it, you know? I mean, it just looked so cool and creepy and awesome. I never knew you ponies could ever design such an awesome suit! Ideal for pulling pranks in.”

Pausing, she pulled to take another deep breath from the mask, then quickly blocked Geist's face again before he could prepare his question:

“But then the rocket just explodes! Which by the way was so cool, much better than any other fireworks I saw! Anyway, there's the screaming and the running and the smoking! And I'm left holding this giant rescue suit. Then I tell Twilight, but she's just like, 'Quiet, Pinkie! I'm doing magics!' To which I'd normally say 'Okie-dokie-lokie Twilight!', right, but I'm holding this giant thing with millions of buttons and giant twirly knobs and I need somepony smart to understand them.”

The strange pony – Pinkie, was that what she had called herself? – was now quite obviously out of breath, and, nodding in thanks, accepted the mask again. Meanwhile, Geist could feel his strength returning back to his legs. Whatever that device was doing, it must have been far more than just providing clear air; perhaps he'd crash into unconsciousness soon afterwards, but right now, he was feeling better than ever.

Jumping off the floor, he took a quick look at the suit Pinkie was dragging behind herself. Its bright orange was now somewhat tarnished by the omnipresent sticky dust, but there didn't appear to be any holes in it. Even the large glass bowl of the helmet was still intact, attached by a loose string.

Geist strained his memory, trying to remember how these things worked again; a long time ago, he had volunteered for emergency suit courses, though not for a reason the Director would have approved of; That hyperactive pony was right, these things were great for pulling pranks.

Intrigued, he studied the small control board; a compact array of valves on the front of the helmet's inner collar, some operating pressure lines, others activating various enchantments. Though its current configuration was a bit haphazard – the boosters dial was turned way up, for instance, and all the air was being routed to the external rescue-mask, leaving none for the suit itself – it generally appeared to resemble the proper operating set-up. He looked back to the strange pony:

“How did you-”

“Oh, you know,” Pinkie shrugged between breaths, “I twiddled this, I twiddled that.”

He wasn't satisfied, but she would offer no further explanation. With his memories flooding back, he quickly and methodically got into the suit, then re-configured the controls board to a less wasteful state; they were fine for



now, but who knew just how long they'd have to stretch the suit's limited resources for.

Pinkie offered him the rescue mask – connected to the outside of the suit by a thin rubber hose – but Geist shook his head, then scooped up and mounted the helmet.

The air seals clicked, and were promptly followed by a whooshing noise as over-pressure built up inside the suit, forcing the original atmosphere back outside. Geist tried to remember just how much these things had cost – a ridiculous amount, he was sure. Still, right now, it seemed to be worth every last bit.

Making sure the rescue mask – and hence Pinkie – was receiving a sufficient amount of air, he looked around in the thick helmet. Visibility was completely obscured by the thick black clouds, and made even worse by the smudged visor glass, but with the smoke no longer tearing up his eyes, Geist could sit back for a second and carefully examine his surroundings. With a clear head, he managed to identify the vague silhouette of the podium in the background, then, visualising the layout of the Cosmodrome in his head, turned thirty degrees to the left and began galloping towards Stable III. First things first.

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Half-landing, half-impacting on the hard sandy surface of the train station, Cherry took a moment to gather her breath. The air was still somewhat itchy, even out here on the opposite side of the Cosmodrome, but it was bearable.

Feeling a mare and her foal jumping off her back, she smiled as the mother first painstakingly examined her child for injuries, then collapsed before Cherry in tears, almost delirious with thankfulness. Cherry nodded in exhaustion, then looked around to see her father hit the ground a few yards away, carrying another pony. She observed with interest as he suddenly outstretched his wings just a second before landing, flaring upwards and slightly softening his impact. Heh. That old stallion still had things to teach her.

Getting up on her hooves again, she readied herself, breathing deeply and preparing for another flight.

Just as she was taking off, somepony grabbed her left wing, sending her spiralling into the ground. Dizzied by the impact, she looked upwards, only to find herself staring directly into the face of the Commissar. The stallion's expression was still as ridiculously steely as ever, but today, it seemed almost... appropriate. Like a fish in water, he seemed almost at home here.

“And just what do you think you're doing, pilot?”

In the distance behind him, two of his subordinates, both wearing black leather coats and tall woollen hats, rotated a strange cart towards her. Cherry wasn't quite sure what to make of it – two large carriage wheels on either side, supporting a small wooden platform that housed an array of six long metal cylinders, each facing Cherry head-on with their open ends. She wasn't quite sure what it was, but it definitely looked foreboding.

Not enough, though:

“I'm saving these poor ponies! Let go, you doof!” she yelled in disbelief, trying to free herself.

“And have you been given orders for such activity?”

Cherry stopped, at least momentarily. Was that stallion really so heartless?

“Come on!” she resumed again, “They need us!”

“Exactly, pilot,” the Commissar remained adamant, “More than ever. That's why you must follow orders!”

Meanwhile, her father stormed up to her side, furious at the sight:

“And just what is this?” he thundered into the Commissar's face, almost knocking his thick woollen hat off. Cherry smiled. He was being just as over-protective of her as ever. Only this time, she didn't mind.

“By authority of Joint Supreme Command of Equestria,” the Commissar stood his ground, “You are hereby drafted into 3rd Pegasus Squadron. Report to Stable II for detailed orders.”

“*Drafted?* I'll let you know, we're of the esteemed Skies family, both of us! I'll not have my daughter treated like some common-”

“Appeal denied,” he announced promptly before turning away.

“I’ll have you-”

“Emergency decrees are in effect! Now get moving, soldiers!”

Cherry and her father exchanged confused looks. Cherry herself wasn't quite sure what to feel; the old stallion, on the other hand, knew exactly. Setting off after the distancing Commissar, he was just about to unleash a tirade of abuse on the officer, when he was suddenly stopped by a loud click coming from the strange cart.

“Not another step,” the Commissar said coldly, “I don't care if you are noble or rock farmer. Everypony works.”

As if to prove his point, Luna herself landed right in the middle of the group, carrying a map in her mouth. As the surrounding officers immediately saluted, Cherry and her father gave the princess respectful bows. Things were happening so fast today, Cherry couldn't even be bothered to feel surprise or shock any more.

Dropping the map on the ground, Luna looked around the scene, and at the nearby carriage. Her eyes focused.

“Situation report, Ironhoof,” she demanded. Staring at her, Cherry took back what she had just thought about not being surprised any more. Actually hearing the Commissar's real name for the first time, she definitely was.

“Yes, milady!” he bellowed in his thick Stalliongrad accent, “We caught these two just here. Nobles, obviously. I've ordered them to report to Stable II, but they've proven resistant.”

“Stable II? 3rd squadron? Evacuation duty?”

“Yes, milady.”

Telekinetically unfurling the map and spreading it out in the sand between them, Luna got out some quills and began noting down positions, occasionally pausing to ask the Commissar a question:

“2nd Logistics?”

“Bureaucrat unicorns. No useful abilities. Stable IV, preparing supply for squadrons five and six.”

“4th Pegasus?”

“Rounding up ponies that panicked and ran out into desert. Sending them back to evacuation point.”

As they worked, a new arrival – a little earth foal, pale olive and wearing the quite-frankly odd combination of an adorable pink ribbon and an old military helmet – galloped up to them, almost collapsing on the ground as she stopped. Upon catching her breath, she promptly saluted:

“3rd Earth reporting,” she began. Cherry blinked. Hearing such words being spoken by such a cute voice was odd, to say the least.

“An earth pony wearing a protection suit just appeared out of nowhere, rescuing Pink- uh, one civilian. Civilian has been dispatched to Stable IV, the other pony is standing by for orders. Says 'is name is Geist.”

“Thank you, soldier!” Ironhoof patted the small foal on her helmet, “I was starting to worry about missing suit. Tell them to send him to Stable VII and meet up with 2nd Rescue!”

Luna gave him a harsh stare. Gulping, he turned to one of his stallions, still standing at attention nearby:

“You do it, instead. Go!”

“Hey!” the little foal jumped as the stallion trotted off, “I can help just as well!”

“I'm sure you can,” Luna smiled as she patted her on the head, to the great fury of the filly, “How about you trot over to Stable IV and ask how the supplies are going?”

The foal scoffed at the patronization, but nevertheless promptly saluted, then galloped off into the distance. Cherry looked on as she disappeared into the smoke. That was one serious pony.

Having finished filling in the map, Luna continued staring at it for a few moments longer, then looked around again:

“We still don't know almost anything. Has the 2nd returned yet?”

“Not yet.”

“What's taking them so long? You two,” she gestured to Cherry and her father, “You're 5th Pegasus now. Circle the entire facility and see exactly how far that smoke extends. If you find any other ponies, direct them to the HQ here. Dismissed.”

They stood still for a moment, as Luna looked back to the ground. Realizing they were still there, she looked up again, then stomped the ground:

“Come on! Move it! We're organizing a rescue here!”

Her instincts taking over, Cherry immediately took to the skies. Her father followed close behind, grumbling to himself.

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Something swirled in the distance before her. Rainbow had no idea what it was, how it had gotten there, or what it was doing. She had very little idea of everything that was going on around her now, actually. Somewhere along the line, most of her brain had just given up and fainted.

But she? She kept going.

There were noises now, too. And fancy lights. Not as impressive as the giant tower fire behind her, obviously, but in the all-encompassing featureless twirling smoke, they seemed interesting enough. Changing her direction slightly, she advanced towards them.

How long had it now been since she had last seen anypony else? Or anything, for that matter?

No idea. Again.

*Man, I really am a doof, aren't I? Don't even know the time...*

The noises were getting louder now. More urgent, Rainbow guessed. The pattern was peculiar, unlike anything she had ever heard. Starting off faint, building up, going down again, up, down, a little pause, then up-down-up and finishing by trailing off into nothing, before starting up again. There

were several of them, each of a slightly different pitch, sometimes overlapping, otherwise isolated. Pretty disorganized, actually.

One of the tight beams of light hit her directly in the eyes. Rainbow just stopped and stared, not even bothering to squint. Compared to everything else, it wasn't even annoying.

More lights converged on her. Yawning, she absent-mindedly examined her hooves. They were completely grey now. She shook her head, and a million tiny grains flew out of her mane.

She watched as the small cloud swirled and floated all around her, glittering in the powerful searchlights. It was actually kind of pretty. Shaking her head again, Rainbow wished those lights had been there sooner, so that she could have started doing this and watching the cool sparkly things much earlier. It would have made the whole journey a lot less boring, that was for sure.

*No. Wait.*

*Is that the real reason?*

*Eh.*

Some greyish shapes were dancing all around her now, twittering excitedly amongst themselves. Now that she had been hearing the noises for a while, she decided they were words. Not that she could make them out, obviously.

Somepony pulled something over her face. She tried in vain to shove him back. She was the almighty Rainbow Dash! She deserved some respect. Not this-

A cold rush of air suddenly forced itself into her lungs. Her eyes widened as something began stirring in her chest. A powerful stinging sensation, then a flash of pain-

Opening her eyes again, she was lying sideways on the warm desert sand, that mask still attached all over her face. Finally realizing what had just happened, her body quickly took in one incredibly long pull of fresh cold air, leaving her feeling slightly sick afterwards.

The other ponies were still speaking excitedly. But the words were understandable now:

“...come on, it can't be her! It's just can't be! It's been a whole hour! No pony could survive that long in all this mess! It's just not physically-”

“Well, do you know anypony else that looks like that?”

“Just because she *looks like* Dash-”

“Oi!” Rainbow jumped to her hooves, cutting the sceptical pony off, “No pony else's going to steal the credit from me!”

The other ponies, all clad in their large protective suits, stared at her for a while. Then, one of them turned to the leader, from whose backpack Rainbow's rebreather extended:

“I told you not to overdo it with those boosters! Somepony this affected needs a long, careful recovery, not a sudden jolt!”

“I didn't!” the other pony began defensively, glancing at his instrument panel again, “They're turned all the way down!”

The trio looked at Dash again. She was studying the tower of fire with interest, trying to judge its size and determine just how far away she had walked. Feeling their questioning gazes, she raised her eyebrows:

“What?”

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Pulling at the short control rod mounted in the collar of his helmet, Geist exhaled in relief as he heard the main pressure valve at the back of the suit pop open. He felt the suit deflate as the over-pressurized inner atmosphere emptied outwards, steadily becoming replaced with refreshing outside air.

“How did it go? How did it go?” Pinkie hopped around him, a wide smile across her face. Geist smiled back at her. Ever since finding him near the base of the launch pad, the pink pony seemed to have taken an interest in him, always taking the time to welcome him back from every sortie. She was a bit crazy, true, but seemed to have way more energy than any other pony Geist had ever seen. Plus, she was also very pretty.

Taking the time to catch his breath as Pinkie removed the heavy spherical helmet – for all their advantages, getting out of the suits was quite impossible without a small support team of assistant ponies – Geist mentally compared her with Cherry. They two mares had a lot of differences, but also much in common. If he had to choose, though-

Seeing her smiling face appear before him as she had finally finished removing the helmet, Geist chided himself for even daring to consider such things. She was a champion of Celestia herself; Cherry, the first equenaut. On the other hoof, he was just a common engineer. Just why on Equestria did every mare he ever happened to like have to be impossibly out of his league?

A harsh commanding voice tore him from his thoughts:

“Report!” demanded the bunker's assigned sergeant; a heavily-built unicorn mare of dark chestnut skin, wearing a long leather cloak and a tall woollen hat. Geist still couldn't get used to the fact that these strange ponies, previously always content to just silently lurk around the background, had just nonchalantly marched in and seized total control of everything.

Looking around, however, he had to admit they were managing the situation rather well. The entire canteen of Stable IV had been efficiently converted to an emergency bunker; rough, but warm cots and blankets were spread out all across the floor, most occupied by groaning ponies. Meanwhile, like islands in an ocean of quiet misery, every table in the room was straining under the weight of bottles of clean water, baskets of bread, tins of dried cookies, and entire boxes of bandages and additional blankets. Everything was very spartan, but also plentiful, and the evacuees seemed to appreciate every last packet.

Snapping to attention and saluting, Geist began:

“Sector seven clear! No pony found.”

The sergeant silently nodded, levitating a quill over and checking off another column on her checklist.

“Supply status?” she demanded.

Sighing, Geist looked sadly at the deflated suit he was still wearing. It had served him well, but no resources were infinite. And without any way of replenishing its stocks, the suit was as good as gone now.

“Oxygen tanks depleted. There's still a bit of boosters left, but-”

“Put them here,” the unicorn indicated at a table bearing baskets of random components next to her, “Nothing goes to waste.”

Geist was about to reach back and remove the small ampoule, but then Pinkie happened:

“Yes, sergeant-commandant-general ma'am!” she hollered, and suddenly her hind leg impacted Geist's side, knocking the air out of him. He gasped in shock. For such a playful pony, she sure was strong.

“Civilian!” the sergeant began, “Cease that-”

But it was already too late. The kick had knocked the small glass capsule out of its slot, and sent it spiralling into the air above; both Geist and the sergeant watched in dread as it arced across the room, rapidly spinning about its axis. Seeing the tiny ampoule accelerate as it plummeted towards the ground, Geist was about to dive after it in a desperate attempt to catch it before it shattered, but a stern gaze from Pinkie froze him up.

The capsule hit a discarded suit lying on a nearby chair, slid off, bounced off a damaged rubber boot lying under it, and landed squarely in the basket the sergeant had indicated, impacting slowly enough to survive.

“Whee,” the pink pony grinned at the unicorn and Geist, “Anything else?”

“N-no,” the sergeant mare stuttered momentarily before regaining her original stern expression, “D-definitely not, civilian.”

“And what about... cup-cakes!” she suggested, almost signing the last word.

Ugh, Geist sighed deeply. *There's having fun, and then there's acting completely insane.*

The sergeant seemed to share his views:

“A-are you out of your mind? We need to conserve every-”

“But, but! Just look at all those sad ponies!” Pinkie protested, gesturing at the rows of tables and emergency cots behind them.

The sergeant opened her mouth for a sarcastic remark, but the pink pony stuffed it with her hoof before she could speak:

“Look at them! All groaning and weeping and sadding. Are you telling me that's the way it should be?”

Fervently shaking her head, the sergeant pony mumbled something unintelligible, desperately trying to get herself free. But Pinkie refused to just let her go:

“Well, lady I'm-so-important-because-I've-got-a-tall-hat? What will it be?”

“Ummf! Ummf! Ummmf ummmmmmf umf!”

“You'd better,” Pinkie stared into the mare's eyes for a moment more, then released her grip. Gasping for air, she gestured to Geist:

“Go bake your infernal cupcakes, and take him with you! Just get out of my sight!”

“But I-” Geist pipped up, but was promptly cut off. “That is order!”

Before he could say anything else, Pinkie was behind at his side, prodding him towards the kitchen:

“You heard the lady! We've got orders! Now, this is a major operation, so we've got to get this organized. You'll be in charge of the 1st supply division...”

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Time was passing. It didn't seem like it, with everything covered in a grey fog that blotted out the sky and the sun, and it certainly didn't *feel* like it, but time was definitely going on; though Cherry only realized this as she passed by the train station's clock on yet another of her sorties, and noticed it claim that three hours had gone by.

Now, obviously, she'd be the first to admit that she kept poor track of time, especially during flight operations. But it couldn't have been *that* long. To confirm her inkling, she quickly rifled through her memories of after the

accident; she flew around, saved a few ponies, found the Commissar, learned his name, flew around some more, saved some more ponies, scouted the area, carried some messages, transported a box of chemicals, reunited that adorable little family together...

OK, she had done quite a lot today. But not *that* much. Deciding that either the springs and gears of the clock must have gone all wonky with all this magic around, or that she had simply confused the hour and minute hands during her brief glance, she ignored her rumbling stomach and carried on.

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“You... stupid... piece... of...”

Lyuka gritted her teeth as she desperately tried to bring the amplifier circuits back to life. She had thought bypassing the broken RC networks would have been easy. Though working circuitry with hooves was deeply infuriating – almost like balancing an egg on your head – she had already managed to replace all the destroyed components with a few jury-rigged replacement parts; some condensers scavenged from the launching console, a new membrane from a piece of cloth Rarity had provided – Celestia praise that mare! – and several resistors Sequine had pulled out of nowhere (when asked why she was carrying random electrical components with her, the only reply was an idle shrug). But, even after all that, something somewhere was still refusing to do its job, and she was running out of ideas

In one last defiant gesture, she kicked the stand. This caused her replacement condensers, hanging in place by nothing but wrapped cloth and hope, to come loose and start plummeting towards the ground, where they would have shattered if not for Sequine's quick reflexes. Hanging her head low, Lyuka nodded to the pale unicorn:

“Okay, okay. Your turn again.”

Collapsing on the wooden platform just a few steps away, she switched places with the engineer for the third time now, then watched as she tried to work her magic; with no more success than before, obviously.

“I do hope you ponies get that thing working soon.”

Lyuka turned her head. Rarity's voice was weak, but surprisingly calm. Lying on a red leather pillow – originally a part of Celestia's seat – a few strides away, the white mare was now getting visibly tired. Yet, the subtle blue glow around her horn remained as bright as ever, and the protective bubble around the launch control platform remained firmly in place. Breathing in again, Lyuka did however notice the air was a lot less minty than before.

She smiled at Rarity, then gestured at the bureaucrat ponies around. A small group was surrounding the Duchess of Hackney, trying to compose an encouraging speech to the ponies of the Cosmodrome; the others were standing in a small ring around Celestia, whose motions remained as slow and jerky as ever. Only the minister of agriculture was still with Wilhelmina, watching her every breath for signs of awakening again.

“Don't worry,” she began, “Thanks to you, we're still alive. The others must have gotten organized already anyway. They'll be here soon.”

Rarity slowly chuckled, “Anything for a customer.”

Lyuka paused at these words. From what little she had overheard from Wilhelmina, there was absolutely no way Rarity would ever be getting that space suit order; it was definitely going to either *Konik Industries* or *Equestrian Dynamics AG*, real industrial concerns with actual experience in high-tensile enchanted fabrics, who had already provided the Cosmodrome's full-protection firefighting suits. In comparison to such giants, Rarity was nothing.

She looked again at the nervous smile on her face. That's what Will had said, at least. Looking at her now, though...

Come on, her conscience whispered to her, Give the little mare a chance. Not everything has to come from giant nameless corporations.

Oh yeah? the more cynical part of her head intervened, I'd like to see her run a vacuum pressure chamber in her tiny straw cottage. Or achieve grade-six precision on the neck seals.

The contract's fifty percent up-front. If you just let her-

That's going to take ages to set up. Besides, you don't even know what kind of experience she has with hermetic-

If you don't know, then just ask her!

No, you – Wait. That's a good point, actually. Ask her!

Snapping out of her brief spell, she apologetically smiled at Rarity, who was still waiting for a reply:

“Space suits are much more than just clothes. We'd need concrete proof you can actually design vacuum-capable seals. Until then-”

“Of course, Director,” she quickly nodded, “But if those were to be delivered...?”

“We'd definitely consider your offer,” Lyuka emptily stated. But, looking around their protective bubble again, she simply couldn't help but add, “And, maybe, more than just consider it.”

That seemed to be enough for the aspiring industrialist. With a smile on her face, she lowered her head back to the ground, conserving all her energy to keep the magic going.

Lyuka looked at with considerable respect. If she was willing to devote a similar amount of energy to her work as she was demonstrating here...

Hmm.

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“What do you mean, I can't go?” Dash tried again to free herself from the group of eight nurses and several doctors that were pulling at her wings, legs, and tail in a desperate attempt to keep her on the ground, “I'm feeling just fine!”

“No... you're... not!” the chief physician got out, hanging off Rainbow's hind leg and putting all her weight into keeping her patient anchored, “You're just high on the boosters! You need rest, or you'll crash again!”

As *if*, Rainbow scoffed at the doctor's protests. Her friends were out there, and she'd find them.

Alarmed by the commotion, one of the Commissar's stallions entered the room, then, seeing the entire medical team hanging off Dash as she hovered near the ceiling, blinked repeatedly.

"I demand situation report!" he boomed after realizing his eyes weren't actually lying, "What is this foolish inefficiency? Queue of patients is waiting!"

"They're stopping me from doing my job!" Rainbow quickly pre-empted the doctors, "All I had was a scratch, and they want to keep me down here until everything's over!"

"That's not-" the chief medic began, but Dash cut him off again:

"They're wasting resources! Acting against orders!" she scrambled to hit as many of the sergeant's buttons as possible, straining her memory to remember all those strange phrases she had heard the Commissar use, "Inefficiently... err... distributing workload!"

*That seemed to do it*, she smiled to herself as she saw the stallion's face turn purple in righteous anger. Marching up to the chief physician, he grabbed her by the neck:

"Just what is going on in here, doctor?"

But before the poor mare had even managed to respond, Rainbow was already gone. The weight lifted off her legs, she quickly shook off the rest of the medical team and rocketed through the door. Banking left and right through the labyrinthine corridors of the bunker, she soon arrived at the intersection leading up to the bunker's small emergency entrance. The main doors were often busy, even on a normal day, so Rainbow guessed they'd be utterly useless today; not to mention, also heavily guarded, by some stuck-up bureaucrats who'd just send her back to the hospital.

Stopping just before the corner, Dash carefully peeked over its edge; even here, at the unimportant side entrance, six more of the Commissar's ponies were standing before the small metal hatch, ticking off checklists and managing a small group of twelve, thirteen ponies queuing in the short corridor. One of them was distributing strange pieces of equipment to the others. Obviously another part of their big plan; things would start happening soon.

Rainbow had no time to wait for that, though. Her friends were still out there, and she'd find them, before it was too late.

Spotting the small metal hatch was beginning to swing open, probably in preparation for somepony arriving from the outside, Dash seized her chance. A swish of the wings, a blur of colour, and she was soaring free through the overcast skies, with a smug grin spread over her face; the Commissar's ponies never even knew what hit them.

It felt good to be flying free again. Dash quickly picked up altitude to avoid the dense smoke that hugged the ground, then began circling the facility, scanning the ground below.

*I really should have done this from the start, she realized, then shrugged, Oh well, now I know for next time this happens.*

Which it almost certainly would; she was pretty sure of that. The Space Programme might have had vast amounts of resources and engineers at its disposal, plus links to a dozen of Equestria's largest manufacturing companies, but, in the end, it was all being administered by five crazy ponies, working on utterly mad plans without any regard for health & safety.

*Not that there's anything wrong with that, Dash smiled, Without them, I'd just be getting bored now.*

*Seriously. Who would have thought being an equenaut would be so darn BORING?*

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"Incoming!" Cherry yelled at the top of her lungs as she folded her wings, quickly losing altitude and descending through the thick fog, carefully managing her descent slope with reference to the two powerful searchlights beaming down from the ground.

Startled by the sudden shout, the limp unicorn she was holding in her forelegs jerked sideways. Taking her eyes off the approaching lights for a second, she gave her a scornful look:

"You're supposed to be unconscious! Start acting like it!"

There was no reply. Praying she had been fast enough, Cherry hastened her descent, and soon she was hovering just a few hooves above the desert surface. The entrance to the bunker was coming up quickly now, but fortunately the hat-wearing ponies positioned outside had heard her

urgent shouting, and were already hard at work unsealing the heavy blastdoor.

Slowing down slightly, so that she wouldn't spread herself and her companion all across the thick steel hatch, Cherry looked back down to the mare. *Hold on just a second! You're almost there.*

Clutching her unconscious passenger closer in, she lowered her head as she whizzed through the circular doorframe; she felt a brief flash of pain as few of her hairs snagged against the metal and were torn from her mane, but paid them no attention. There was a medical emergency to resolve.

Extending her wings and rotating them vertically, she flared slightly into the air, almost hitting the ceiling as she bled off excess airspeed. Behind her, she could hear the heavy door closing again, sirens spinning and illuminating the corridor in crazy colours. The second heavy hatch, at the other end of the corridor, however, still remained silent.

Slowing down just outside the door, Cherry gently lowered the unconscious unicorn to the floor, then banged on the thick metal bulkhead as she glanced back towards the outer hatch. The ponies outside were evidently having some problems or *something*, because the heavy door had now stopped closing, hanging uncertainly in a midway state, being absolutely useless for all the purposes it was supposed to serve; neither letting ponies in, nor keeping the sand out.

"Open up!" she yelled across to the ponies on the other side, only to be met with silence.

She glanced urgently at the poor unicorn. She was still breathing, but only barely. When Cherry had found her, she was halfway through a choking fit, and fainted soon afterwards. Without the proper care, she might not last long. Turning around, she stared at the immobile outer door:

"By Celestia's-" she stopped midway through her curse, realizing the goddess was still somewhere close around. And, given their luck recently, probably even in hearing range. Shaking her head, she hollered towards the door:

"What's taking so long?"

Again, no reply. Ponies didn't seem to be in the mood for replies today.

And now the outer door was opening again. *Just great. What's so hoofing hard about understanding a door? Push one direction, it closes, pull the other, it opens. Are you ponies utter morons?*

"The other way! The other way!" she tried to help the apparently-challenged guards outside. They didn't seem to respond, however, and soon the door was wide open once again, letting all the sand and dust outside blow freely into the corridor.

Just as Cherry was about to fly over there and close the stupid thing herself, a group of four ponies emerged from the thick smoke outside and galloped into the bunker.

Oh, she now felt slightly stupid, That actually makes sense.

Before the group had even passed the threshold, the hatch was already quickly closing again. Now lit by the orange bulbs hanging from the ceiling, and approaching fast, Cherry was able to see the little group consisted of three tall earth stallions – each carrying an unconscious pony on their back – thundering on ahead as their thick leather coats flapped in the wind, with an exhausted violet unicorn trying to keep up a short distance behind; all four were wearing thick rags wrapped around their mouths and noses, as some sort of rudimentary gasmask. Or something. Who cared, that wasn't the important part.

The important part was the identity of the grey mare powerlessly lying on the lead pony's back, feebly bobbing up and down as he galloped. Cherry gasped as she recognized her bestest friend, Zvezda.

The stallions had already covered the length of the corridor, and were now stopping a short way before Cherry. Meanwhile, the outer door was just finishing closing, and a series of metallic clangs convinced Cherry to snap to attention and pick her unconscious patient up again. Even then, she couldn't take her eyes off Zvezda.

The inner door slowly opened, and a burst of cold air rushed outside, making their tails and manes flutter in the wind. Cherry yawned, popping her ears. As the slight pressure gradient equalised, Sara – That was her name, right? – caught up with them, and, not even pausing to catch her breath, began jumping all around Zvezda.

“Please, Zvez, please! I'm so sorry!” she was in tears, pleadingly grabbing her friend's hoof, “I'll never do something like that again! Just come back! Please, Zvez, just come back!”

The door was open now, and the small group surged inside. While one of the stallions waved a team of nurses over, Cherry took some time to look around the large inner chamber; long rows of cots and stretchers had been spread out all over the floor of the lunchroom, and most were occupied by recovering evacuees. Surprisingly to Cherry, however, the atmosphere here wasn't one of grim determination, as was the case with the teams outside; instead, the ponies here were almost... happy?

Taking a closer look, she realized that was indeed the case. A few foals were running between the rows of cots, laughing as they raced each other; One of them even had a slight limp, and she seemed happy enough as well. The adults watched them quietly from their beds, smiling because their children were. A few of them were eating cupcakes, too, and Cherry suddenly realized the game was being incited by a hyperactive pink pony, carrying a basket of baked goodies and hopping around happily; every so often, she'd slow down on purpose to allow one of the foals to catch her – even the limping one – and they'd all have a laugh.

Awww.

“Over here! Four medevacs, quick!”

She was torn from the endearing scene by the arrival of a small medical team bearing stretchers on their backs. Scanning their ranks, Cherry hoped to see the Cosmodrome's chief physician; she certainly wasn't going to let anypony of lesser skill examine her dearest friend.

Her heart sank, however, as she realized most of the team were simply drafted nurses, no doubt also commissioned on Ironhoof's orders. Of all the eleven ponies there, she only recognized one as belonging to the Cape's medical corps.

As the others spread the unconscious ponies out on the stretchers, the single doctor wondered up to them in sequence, sparing each only a momentary glance before voicing her verdict:

“She's fine, just needs some water.”

“Same.”

“Her too.”

As the doctor wondered over to Zvezda, Cherry noticed the deep rings underneath her eyes. Just how much overtime were they pulling here, anyway? Nopony really had any idea of just how much time was passing, simply living task-to-task. And all the clocks in here seemed to be utter liars, as they claimed more than five hours, which was obviously not the case.

Arriving at the grey mare's side, the doctor almost pronounced her usual diagnosis, then, stopping herself mid-breath, suddenly leant in closer. Pressing her hoof firmly against Zvezda's neck, she felt around for a few seconds, then urgently looked back up:

“We've got another AAO here! Send her to Verdure, she's the only one experienced with this.”

Cherry's face lit up at mention of the chief physician's name. If she was operating, then everything might just-

“The- the Commissar just o-ordered Verdure away,” one of the nurses cautiously spoke up, obviously terrified to be the bearer of such news, “Apparently, t-the Chief Designer is in critical-”

“Just get her to a surgeon, then! Any surgeon! She needs an operation, stat!”

The pace of the nurses quickened as they hurriedly secured the stretcher on their backs, then set off down a nondescript corridor, into the depths of the bunker. Cherry tried to approach the diagnostician, hoping to find out exactly what was wrong; but she was already galloping off into the distance again, rushing towards the far entrance where a new group of medical emergencies was being ferried in. Stopping in her tracks, Cherry realized that for all the checklists and 'Squadrons' the Commissar had set up, this was still an emergency, with all the chaos that entailed.

Forgoing the diagnostician, she set off after the rapidly-disappearing team of nurses again. These ponies *were* going to make Zvezda better, or there'd be hell to pay.

She'd make sure of that.

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“Lyuka, Lyuka! Come over here, quick!”

“Not now, Red!” she snapped towards the professor as she connected two thick cables together, “I almost got this thing working! For real, this time!”

“This might be somewhat more important.”

Beginning to turn around, Lyuka sighed, “And what's *that* supposed to mean? How can anything be more-”

*Oh.*

At the centre of the wooden platform, all the other ponies – with the exception of Rarity, still lying in the corner, and Sequine, who was now trying to help the poor exhausted thing – were standing in a semicircle, watching in fascination the dazzling display of light that ebbed and flowed around the towering figure of their princess. Looking beyond just the pretty sparkles, Lyuka noticed that not only was the outline of their goddess steadily becoming more and more lifelike, her movements were also gradually unfreezing, as if finally breaking loose from whatever confinement they had been trapped under all this time.

Suddenly, all of her pent-up stress and worrying disappeared. Celestia was coming back. She'd put on that subtle smile of hers, maybe chide the Chief Designers a little, then cast an epic spell and everything would go back to normal.

About time, really.

Noticing the princess' mane had already returned to its brilliant starry aura, she quickly followed suit of the others and bowed deeply, almost kissing the floor.

“Your highness,” the Duchess of Hackney barely gasped out, undoubtedly still quite shocked by this sudden turn of events.

“My little ponies,” the princess smiled widely. Her voice was still quite faint and slow, but when cast against this backdrop of utter chaos, it was a

shining beacon of hope and stability; a calm reassurance that everything would be just fine.

“Apologies if I skip through all of certainly-merited praise, my princess,” Redstone resolutely cut short the uncertain silence that followed, “But this isn't quite over yet.”

“Of course,” Celestia nodded, folding her wings back and walking over to the edge of the platform, then proceeding to intently examine the giant pillar of fire towering in the distance, “I trust everypony has been safely evacuated from the facility by now?”

With a nervous smile, the assembled Chief Designers looked at each other, very hesitant to speak up first. Thoughts began racing through Lyuka's head. She wished to say they were attempts at composing a reply, but in reality, most of them consisted of nothing more than crude panicky swearing.

Turning around, Celestia gave them a Look.

“Well?”

Subjected to the Princess' steely gaze, Lyuka felt distinctly exposed; as if every fibre of her existence was gradually beginning to turn see-through, allowing everypony to see all the lies inside.

“Bunkers,” Sequine finally pipped up, safe in her distant corner.

*You stupid stupid mule why did you have to-*

“Bunkers?” Celestia repeated, her voice growing quite cold. Slowly approaching Lyuka, she stared down at her, towering head-and-shoulders above the little pegasus; Lyuka stepped back, glancing around nervously, trying her best to avoid her gaze:

“Well, what could we do? We try and start some serious wind for the balloons, all those particulates here get picked up and carried over half of Equestria. We-”

Celestia paid no heed to the excuses, “What about the train station?”

“We have one train, princess, one! And it got commandeered pretty soon after the accident. Even if we wanted, we really couldn't-”

“Commandeered,” the goddess repeated, “You mean you lost it.”

“Well-”

“You let two thousand ponies – of my royal subjects, whose safety I guarantee – get stranded in the middle of the desert, with no way out, right next to an exploding firework.”

“Exploding?” Redstone repeated in befuddlement, “Present tense?”

He began quickly alternating his head between the roaring tower of fire and Celestia. After a few seconds of this comical motion, his face lit up:

“Time dilation! Of course, that explains everything! Why didn't I-”

“Yes, 'time dilation',” Celestia sighed in a tone that suggested it should have been obvious. Turning back to Lyuka, she stared questioningly at her, “So, do you have any plans? Whatsoever?”

“Of course they don't!” the Duchess yelled out from behind her, “They're completely useless! They didn't even manage to stuff the ponies into the bunkers in the first place! Your royal sister did all that!”

Celestia's steely gaze was now drilling a hole into Lyuka:

“Is this true?”

“Uhhh, heh,” she quickly lowered her eyes to the ground, unable to look at the barely-contained solar fury overlooking her, “We...”

“Yes?”

“We...”

*Buck buck buck. How you're gonna get out this one, I wonder?*

Suddenly, completely out of nowhere, a new thought popped into existence at the back of her head, neatly packed away and ready for immediate use. Deeply thanking her subconscious, she wasted no time in employing it:

“... it's just, your esteemed sister just kind of sprang into action. Right after the explosion. She... she just took over, immediately, giving out orders

and organizing everything. Everything was going on so quickly – and so well – that we just followed.”

It wasn't even a lie. Well, sort of.

But the princess seemed to be buying it, so the emboldened Lyuka carried on:

“After all, we're just engineers. Scientists. We know our place. When a true leader steps in...”

She trailed off. Meanwhile, Celestia stood back, looking around contemplatively. Lyuka noticed her ears snapping to attention.

Around them, a complete silence fell. No pony dared breathe. Even the deep roar of the burning rocket subsided, probably by some act of royal magic. Nothing was getting through.

A smile appeared on Celestia's face. Straining her own ears, Lyuka picked it up too; almost inaudible in the far distance, a booming voice barking out orders. Though she had some trouble conflating this harsh sound with the quiet, soft-spoken intellectual she had met earlier, there was no question about it.

It was Luna.

Quickly scrambling to action, Celestia looked around at the staring ponies:

“I need paper! Quill!”

No pony moved.

“Now!”

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Dash continued scanning the seas of turbulent black smoke swirling underneath her; even though most of the heavy stuff was closely hugging the terrain, the rest was still floating high up in the air, acting like a thick fog that hindered visibility even from this high up. If she were to ascend any further than she already was – which wasn't all that high, actually – she'd lose sight of the ground completely.

The large white tower of fire seemed to be visible through just about anything, however. Idly wondering if it could be seen from space, Dash searched the ground below once more, trying to find at least one identifiable building poking out from under the smoke. Twilight was a smart pony, and moreover, she knew her friends; she'd be counting on the fact Dash's loyalty would draw her back. So, logically, she'd be waiting somewhere high up, waving a flag or something. Made sense.

Seeing nothing but black, she scowled. Why were all these stupid bunkers built so low? And why did ponies need blast-proof concrete bunkers in the first place?

Hmm. The podiums weren't exactly low. Sure, they were pretty close to the rocket, and the smoke would probably be even thicker there... but the top rows *should* be high enough to clear even that. Plus, they were pretty close to the pad, quick and easy to reach when things went haywire. Add a little magic, and it'd be the perfect hiding place.

A confident smile on her face, Dash turned towards the tower of fire. At the back of her mind, she wondered whether it was now looking slightly shorter than before, but quickly tossed the thought aside. That was somepony else's problem.

Tracing out a wide loop around where the launch site once had been, her smile grew wider as she soon spotted a wide translucent hemisphere, dimly pulsing with a dark reddish hue, nestled safely between the two observation towers at the very back of the western podium, entirely covering the top rows. It seemed a little too large for just her friends, but then again, Twi always liked to make her spells extra-flashy; probably just envious of the sonic rainboom.

With an almost imperceptible twitch of her trailing feathers, she adjusted her course for a landing; the bubble was completely opaque, but Dash still remembered the layout of the spectator podiums quite well. Her memory was proven correct as she passed through the arcane barrier and saw a row of seats stretching out directly below her, like a runway.

Realizing something peculiar, Dash suddenly stopped in mid-air, then took another look around.

She had seen correctly; for all its massive size, the interior of the bubble was incredibly crowded. Ponies of every colour and age were gathered

below, lying in the seats and the walkways, being peaceful and generally trying to whittle away the time.

Or at least, they had been, until one of them pointed up to Dash and yelled something; now, everypony was looking up at her, some gasping, others merely lowering their heads again. She paused for a while, letting the crowd watch her with fascination, then shook her head. Her mission wasn't over yet.

There was still no sign of Twilight, though. She wasn't in the middle, where you'd expect her to be, commanding and organizing everything; instead, that place was occupied by a large tower of half-empty bottles of applejuice, arranged in peculiar winding patterns.

What's that crazy mare up to, this time? Dash wondered as she carefully approached the large array of glass; she knew her friend was a genius, and trusted the contraption served some sort of vital purpose, but that didn't change the simple fact it just looked weird. Piles of bottles stacked high up, with bottlecaps on the ground around them.

The entire thing was also glowing with a subtle glow, but even that seemed strange; unlike the constant steady glow of unicorn magic, this was variable, gradually building up to a powerful flash, which then suddenly dissipated. Dash looked back at the magical hemisphere enclosing the ponies, and realized it was pulsing in tandem with the bottles.

Landing on a seat just next to one of the towers, she leant in to examine it more closely. Her mane started feeling odd, and-

"Rainbow! There ya are!" Applejack suddenly tackled her from the side, knocking her over on the ground and away from the tower, "Ah was wonderin' when you'd get here!"

Dash stared up at her friend in a confusing mixture of emotions; on the one hoof, relief that she was safe and well. On the other, however, AJ's blonde hair had transformed itself into a wild frizzy nest, that was almost impossible to not laugh at.

Her relief was greater, though. She hugged Applejack passionately.

"Rainbow, Rainbow, Rainbow!" Twilight's voice came over from behind them. Managing to tear away from her friend, Dash looked around.

Alright. This time, she did burst into laughter.

“Rainbow?”

Applejack's mane was merely a frizzy mess, but what Twilight had on her head was a complete abomination against nature; had Rarity seen it, she'd probably faint on the spot. And the worst thing was, it *fit* her, especially with that crazy contraption in the background. She looked exactly like a mad scientist.

“What's wrong?” she asked innocently as Dash slowly regained control and quietened down.

“Oh, nothing,” she giggled, wiping a tear from her face. Hugging both of them closely, she smiled, “Just happy to see you guys again. Where's Fluttershy?”

“Umm... behind you, if that's alright?”

Immediately turning around, Dash added her to the group hug before she had a chance to escape.

“Anyway,” Twilight tried to quickly change the topic, somehow slipping from Dash's grasp, “I've got something to show you! Come on, it's exciting!”

Oh dear. Dash thought back to all those times her friend had used those exact words, then spent half an hour staring at a flower. Or, worse yet, a rock.

Levitating a thick dusty book from a nearby bench, Twilight proceeded to shove it in her face, “Look! Look at it!”

She tried to, but the words on the page weren't telling her much; uncertainly glancing at her friend, she noticed she was rapidly gesticulating between the tall stacks of bottles and the ancient tome.

“It's Greybeard's power jars!” she twittered excitedly, no doubt awaiting an astonished reply. One which Dash failed to deliver:

“What?”

“He wrote of 'power jars' as a helpful spellcasting aid in some of his writings, but no magic historian was ever able to figure out what he meant!”

she explained rapidly, with almost a childish glee in her voice, "And now I solved it, and it's all thanks to you!"

"Huh?"

"Condenser circuits! Even though he didn't know what to call it, Greybeard managed to stumble upon the original capacitor design!" she was almost dancing with excitement now, "Sure, he used it for magic instead of electricity, but it was the same idea. Oh, this is going to make *such a stir* when the Royal Academy of Sciences hears of this..."

"Alright," Dash nodded, cautiously smiling and accepting her hug.

"Twilight managed to set all this up here and make the air-field 'bout ten times as big," Applejack explained, gesturing to the hundreds of ponies huddling under the magic barrier all around them, silently staring at the little group, "They all owe her their lives."

OK, now that was something. Encouragingly patting her on the back, she looked back to the scene around them. Many of the ponies looked exhausted from today's ordeals, but they were all safe and sound underneath the giant glowing shield.

"You're great, Twilight."

"Thanks," she whispered softly, suddenly very tired after that brief flash of commotion.

The grin disappeared off Dash's face. It became painfully obvious that, despite all these technological aids, the massive protective field was still proving to be an incredible drain at Twilight's powers. Again admiring her utter commitment to everypony on this Cosmodrome, Dash hoped to Celestia that this would all be over soon.

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Looking on as her friend was lifted off the stretcher and onto the operating table, her head powerlessly hanging backwards, Cherry's mind was full of worry and regret. Why did the most terrible things always have to happen to the ponies who never did anything wrong? Cherry was the one who had signed up for risking her life on the frontiers of science, after all, and she was perfectly fine. But all Zvezda wanted a well-paid secure

job, and yet here she was, struggling to survive amidst unstoppable forces toying with her. Where was the fairness in that?

But that wasn't everything. Oh no. After her training accident, Cherry had been given all the care and support she wanted, personally looked after by the Cosmodrome's chief physician and visited by almost everypony working here. Instead, Zvezda had to make do with a clumsy backyard operation, being conducted in a hastily converted office; Cherry eyed the depressingly happy pink walls with deep suspicion. A white cloth – already stained in places, she noted – lay over the desk, while a large pile of papers, quills, and assorted miscellany stood in the corner, rapidly pushed away to make space on the table. The air itself was heavy with the dirtied pang of wounds and antiseptic. A small metal table on wheels was the only piece of equipment even remotely reminiscent of a properly-equipped hospital.

Standing in the corner and quickly gulping down a cup of coffee, the surgery unicorn resembled the room, her white skin dirtied in places and deep rings underneath her tired eyes. Making a final readthrough of the rapidly-sketched sheet of medical information Cherry had provided her with, she mumbled some of the details under her breath, as if trying to remember them, then levitated the paper to her feet and approached Zvezda. Examining her neck again, she glanced around at her assistant, who was attaching a breathing mask over the comatose pony's face:

“How much do we have left?”

The chestnut unicorn quickly checked the pressure gauge on the heavy cylinder lying just below the table, “On this one? Half. Verdure requisitioned the rest of the C.E. for an urgent operation, so we're back to just good ol' sweet-air now.”

The surgeon sighed deeply, “Will have to do. For her sake, I do hope she's unconscious already.”

Cherry almost cried out in protest upon hearing these words. Such a brilliant pony like Zvezda deserved better, much better. The celestial wing of the Royal Hospital in Canterlot, perhaps, or at the very least, the intensive care unit of the Lunar Ward in Stalliongrad. Not this dirty office.

But right here, right now, this dirty office was all they had.

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“Wait, we're doing *what?*” Geist tried in vain to overshout the stampeding of hooves and shouting of orders that seemed to be going on everywhere around him, all the while trying to keep his tempo exactly matched to the galloping formation in front and behind, “You can't possibly be serious!”

“Oh, I'm very serious!” Pinkie grinned in a manner suggesting she wasn't serious at all.

Shaking his head, Geist turned away and concentrated on following the formation leader in the distance before them. Asides from the pounding of hooves and encouraging slogans being yelled from far above, and far behind them – coming from the almighty Princess and the imposing Commissar respectively – the only other thing that filled Geist's ears was the rhythmic clanging of metal; coming from the large pieces of assorted construction equipment and industrial components that the ponies of his squadron were all carrying

He looked around the slowly thickening fog; both behind and before them, he could see the glowing magical hemispheres that shielded the other squadrons, each sustained by that group's dedicated magician. Some of them were carrying food and medical supplies, but the vast majority seemed to be bearing more of this strange equipment. Geist recognized some of it – welding torches, magic-fuelled emergency generators, pump assemblies – but most of them, he had never seen before.

Over the last hour, the Commissar had been handing these strange things out like candy, slowly equipping every single pony who was able to stand. Such was the urgency, even Pinkie got entrusted with a few boxes. Whatever rescue operation their two leaders were organizing had obviously been meticulously planned, and was now in full swing, unfolding perfectly.

Which made that pink pony's suggestion all the less sensible. Given that everything was going so well, just why on Equestria should they throw down their no-doubt critical equipment, split away from the main group, and run off on a wild goose chase? It made no sense.

Turning his head around again, ready to voice his complaints to his new comrade of these past few hours, he discovered she was nowhere to be

seen, and her position in the tightly-organized formation was now being filled by a big empty hole.

Briefly glancing back, he indeed noticed her gear lying uselessly on the desert sand, quickly shrinking into the distance far behind them. Pinkie herself was already far gone, probably to get more cupcakes or something. Silly filly.

“Onwards! Ever onwardss!” came the amplified voice of the Commissar from a nearby loudspeaker-pole, “All your friends are depending on you, brave ponies! Don't let your comrades down!”

Realizing he was starting to slow down relative to the rest of his squadron, Geist steadied himself and, seeing the massive tower of fire still towering in the distance before him, pushed forwards. They were organized, but the task ahead was massive. In order for it to work, every single pony would have to follow orders and do precisely as they were told, even if they didn't personally understand just what good it would do. Geist knew that very well, and he'd follow orders until the end.

“Charge!” the Princess bellowed in the skies above, “For the ponies of Equestria!”

Glancing upwards, Geist caught a brief glimpse of Luna as she soared overhead, directing her troops. It was a picture like out of some ancient legend; her long blue mane fluttered in the wind, almost glowing against the dark-cast sky as her black tiara and necklace glittered with fiery reflections of the giant tower of fire. The pair of scavenged military saddlebags on her sides, stocked full of maps and gear, almost resembled some great suit of armour, as if she were a great field marshal in the midst of a fairy-tale battle for the good of Equestria. Her commanding voice was the most powerful of all, piercing through the steady background roar of the fire and inspiring everypony to do their greatest.

Geist chortled to himself. Compared to other moments in Equestria's long and proud history, this was nothing; just a small industrial accident in some backyard desert. The only reason Luna was here, kicking up all this grandeur and over-organization, was to make the unqualified visiting ponies less panicky, force them from their safe underground shelters, and make them lug a hundred tonnes of bulky gear over the entire length of the facility. Nothing more, and nothing less.

But he also had to admit that it worked. He genuinely felt like a soldier fighting against some great evil. It was like being in the middle of a legend, and he loved it. Now, all they needed was a-

A sudden passing shockwave knocked him off his hooves, sending him flying into the pony in front of him, who crashed into the next pony, bringing the entire formation down within seconds. As he lay on the ground, he could distinctly hear a massive roar slowly begin to build up, coming from the direction of the launch pad.

You're kidding me.

~~~~~

A million conflicting thoughts running through her head, Cherry watched as the surgeon's assistant opened the appropriate valve, then checked the anaesthetic was flowing into Zvezda's mask. Still standing in the doorway, she watched their every move with baited breath, making sure they were doing everything as they should. She knew they were professionals, but she also knew they were stressed and overworked. And overworked ponies, no matter how pure their hearts, could make mistakes.

"Light," the surgeon demanded as she levitated a scalpel off a nearby tray and positioned it above Zvezda's neck. Her assistant closed his eyes, and a small ball of light popped into existence just above the targeted incision, lightly bobbing as it hovered in the air.

"Field."

A small sphere of brilliant blue light materialized above Zvezda's neck, then slowly grew to cover her entire upper torso. Compared to the sterilization spells Cherry had seen in other hospitals, the assistant's was flickery and pathetic. Worthless.

The surgeon seemed to pay no heed to it, though, and Cherry flinched as the scalpel cut into friend's skin. She managed to keep her eyes on it for a whole second, then quickly turned them to the floor. Wounds and scrapes, she had no trouble with, no matter how severe. But only when they were on her own body. Seeing her friend-

Cherry shook her head. She then proceeded to carefully arrange her eyes so they'd view the surgeon, standing off to the side of the table and

concentrating intently, but would keep the operating table itself firmly out of sight.

For once in her life, she was glad of that constant subdued hum that resonated from inside the Stable's walls, coming from the many pipes and electrical cables hidden away there. Usually, it was incredibly annoying, but today it was just loud enough to block out the occasional moist sounds coming from the direction of the table. Almost.

She kept staring at the surgeon; sometimes, she'd request her assistant to move the light, or perhaps pause briefly to levitate another instrument from the metal table at her side. But most of the time, she remained utterly immobile, standing in silent concentration as she worked on Zvezda.

Cherry's stomach churned from the scene, but she didn't dare to make a squeak. She didn't dare move her eyes to Zvezda either, because she'd probably completely lose it then. All this time, her imagination was conjuring up ghastly images of just what was happening on that operating table there. But even though those thoughts were sickening enough, seeing the reality would probably be even worse. And so, whenever Cherry felt her eyes were about to budge, she sealed her eyelids shut.

Amidst all this, time somehow still went on.

And on.

And-

Suddenly, the entire room shook slightly, knocking off the surgeon's concentration and forcing her to pause. The operating table, the door, the tools tray all rumbled on the floor as the lightbulb at the top of the ceiling briefly flickered. Accompanying this vibration was a deep distant roar, almost as if something had exploded. Again.

Exhaling deeply, Cherry rolled her eyes, unsure whether to laugh or cry. What was going wrong *this* time?

~~~~~

“Stand fast! Ponies of Equestria, by the direct order of your Princess, you will stand fast!”

Despite their great volume, the Commissar's orders seemed to be having little effect. Standing at the edge of the launch control platform, Lyuka watched in idle fascination as the dozen carefully-arranged columns and formations dissipated into sheer utter chaos below them. That would be the second time today.

Not that I can blame them, she realized, looking at the tower of fire herself. It had been intimidating enough back when it was 'just' a calm confined pillar, but now, it was getting angry.

Its edges were slowly beginning to lose their definition as the *thing* – Lyuka could find no more precise word for it – gradually grew fatter, multicoloured tongues of fire creeping out from underneath the surface and painting the surroundings in flickery lights. Some of them almost looked like the arms of some ancient angry god, awakened by the explosion and now coming to devour all the ponies of Equestria in a horrible feast.

The sounds emanating forth seemed to support that fantasy; the once-steady rumble was now descending into a chaotic jumble of crackling and creaking, almost like some twisted parody of a musical symphony. Every so often, an especially harsh chord would strike, and a large jet of fire would spurt forth, falling away from the tower and darkening the sand where it landed.

And, all the while, the giant tower continued growing shorter, as if falling into the ground. Or as if the forces that had previously bound it were now beginning to play out in reverse.

The sight frightened even Lyuka, and she prided herself on being a mare of science, of reason. Those common superstitious ponies below must have been absolutely terrified.

On the platform beside her, the others stood, equally taken aback. The experience even seemed to be bringing a little emotion to Sequine's face.

“How can something like that even *exist*?” the Duchess spoke, more voicing her thoughts than seeking a reply.

“I... I...” Redstone attempted one anyway, his scientific mind quite obviously straining to somehow interpret the sight, make some sense out of it, and provide a comforting fact-based reply. “Perhaps runaway interaction

of chrono-magic and unstable propellants? No, no, can't be. Too energetic. Or perhaps chain reaction..."

"I have no clue," he finally announced, shielding his eyes.

"My princess?" Lyuka uttered uncertainly to Celestia, "You can fix this, right?"

The silence that followed was even worse than a 'no' could ever have been.

A pause means that she's thinking it over. That she isn't sure.

That she doesn't-

Lyuka cut herself off just before finishing that thought. Bad idea to be thinking blasphemy when the goddess in question is standing five paces away from you. Besides, she's the immortal princess of the sun, right? A magician with millennia of experience? She must have a plan.

Yeah, that's it, Lyuka reassured herself, It's just taking a little bit to get started.

On the other hoof, her royal sister certainly seemed to have had one ready; except the panicky nature of Equestria's ponies seemed to have derailed it somewhat. Lyuka looked upwards: The princess was hovering high up in the sky, glancing about rapidly, obviously considering and dismissing a thousand scenarios per second.

But meanwhile, the situation below was descending further and further into an irreversible rout. While a precious few still remained in their small confined groups, most of the ponies were already beginning to scatter, running in all the physical directions that led away from the launch pad. A few minutes more, and there'd be nopony left to carry out a plan, no matter how brilliant it was.

Seeing the Commissar's words were doing nothing, Luna decided to try herself. Folding in her wings, she began swooping low above the running ponies:

"Your princess needs you, my royal subjects!" her voice boomed, eyes glowing white as she continued, "For the good of Equestria, do not be afraid of a few simple fireworks!"

Lyuka observed this made the ponies run even faster.

~~~~~

Straining her ears, Cherry was trying desperately to hear just what the two surgeons were talking about. Ever since their hurried arrival a few minutes ago, they hadn't done anything except talk, muttering amongst themselves in their secretive hushed overtones, leaving the unconscious Zvezda lying still behind them. Every so often, the assistant unicorn would bring in another additional surgeon, and she'd also join the small closed circle, adding her own hushed voice to the mix.

Cherry hated not knowing what was going on; and something obviously was, otherwise they wouldn't need all these extra specialists. She had every urge to just march up to them and demand an explanation. This protectionism reminded her too much of her dad's.

But, no matter how hard it was, she stopped herself. Every second wasted explaining things to her could be the one second too much for her dear friend.

And so, she waited in the corner of the room, standing still, praying to Celestia. After all, the princess was right here on this Cosmodrome. She should be able to hear, right?

The thought reminded Cherry of one of Redstone's lessons; her first time in that chalky old classroom she had actually understood something. It was a pretty strange day, really, because the old professor was in a really good mood for some reason. He just wondered over to the board and gave the most sensible explanation of his life, using the sensible analogy of two spheres, one twice as big as the other, to explain the theory.

He had said it applied to almost every force in the universe. So, hopefully, prayers would obey the inverse-square law too.

~~~~~

"Your comrades need you! Running away means betraying their friendship!"

Ouch, Lyuka winced, still motionlessly watching from the platform, *Now that's harsh.*

As Luna continued in her never-ending attempts to rally the crowds, something popped into existence just inches away. Stealing a glance at it just before Celestia had whisked it away, Lyuka realized it was a fragment of a strategic map, about hoof-sized and obviously torn away in a great hurry. On it, in hastily-sketched letters, stood the words “*Tia, help me out here.*”

The message seemed so uncharacteristic of the great battlefield commander flying below, it made Lyuka pause. She remembered the rather soft-spoken, if dignified, intellectual who had expressed so much interest in Will's computeronic technology just a scant few hours ago.

Then again, soft-spoken intellectuals don't become ultimate rulers. And if they do, they don't stay that way.

“You *dare* disobey your princess?” Luna tried to invoke an even greater fear in the scattering ponies.

But it didn't work. Watching from the sidelines – and hence having enough time to judge – it was fairly obvious to Lyuka that this plan had been doomed from start. The peaceful ponies of Equestria were used to kicking up a panicked stampede at an unexpected swarm of rabbits; a giant burning tower of fire was just too much.

“Bring it up, bring it up!”

Turning her gaze away from the princess, Lyuka noticed the Commissar standing to attention, overseeing a few of his stallions as they attempted to work away on a peculiar metallic contraption housed on a shaky wooden draw-cart; the machination consisted of six long cylinders, arranged in a hexagon and facing forwards, with small apertures at their far ends, and small doors on the other. On a steel plate hanging from its side stood, in large blocky letters, the inscription “*ULTIMA RATIO REGINAE*”. The entire thing, though it seemed made from finely-cast metal, appeared quite rusted and worn; it must have been centuries old, perhaps even more.

Lyuka remembered seeing it a couple of times at the back of the storage bays of Stable III, but never was quite sure exactly what it was. Seeing the utterly committed look on the Commissar's face, however, filled her with dread anyway. She tried a quick glance at Celestia, but it told her nothing; a blank expression covered the princess' face as she dimly stared at the cart, as if lost in memories.

Whatever the purpose of the device was, the stallions seemed to be experiencing big trouble getting it to an operational state. The eldest amongst them was slowly browsing through ancient and delicate parchments – ones that looked like they had been carefully passed down for entire generations – and silently mouthing the words as he read on. After spending a long time on one particular paragraph, he looked back at the Commissar:

“Chief, you know what 'munition' means?”

“What?” the Commissar snapped, marching over to look at the parchment in question himself. After spending a long time parsing through its contents, he closed his eyes:

“Munition, munition... I remember Father mentioning something like that once...”

“Do we have it in Armamentarium?” a younger aide – wearing a slightly shorter woollen hat than the others, something Lyuka had never noticed before – suggested, only to be immediately shouted down by his elders:

“And just how are we supposed to check that? Do *you* know what 'munition' looks like?”

“Sorry, elder. Only suggestion.”

As the hat-wearers carried on with their conversation, Luna hit the platform next to Celestia, making a particularly hard landing that shook the entire platform.

“Tia!” she pleaded, completely exasperated from her efforts, “Come on! We have to do something!”

“Honestly, Luna. I'm gone for a few hours and you already start taking over everything,” Celestia chided her sister with a giggle, “Have you learnt nothing?”

“This isn't the time for stupid jokes, Tia! We must act *now*!”

“You can't rush things like this,” Celestia answered quietly, speaking with the measured voice of a mentor as she turned her eyes towards the distance.

“But-”

“Just wait and see, little sister.”

“Come on, I've got a plan! I know how to fix this! All we need is a few dozen ponies to set up a Calendula ring, then use it to amplify a confinement-”

“I know,” she calmly nodded, “Just wait.”

“If we *wait*, that thing's going to explode, Tia,” Luna gesticulated intently towards the still-collapsing tower of fire before them, “I *can* fix this, I know I can, but not with all the ponies running away in a panicked riot!”

“Exactly,” a mysterious smile occupied Celestia's face as she looked off into the distance.

“Tia!” Luna tugged wildly at her sister's shoulder, without much effect.

Lyuka wasn't quite sure what to make of all this. On the one hoof, Luna's hurried argumentation was certainly proving rather persuasive. On the other, that infernal tender smile on Celestia's face was...

Suddenly, Lyuka realized the princess had been looking at something in specific this entire time, as opposed to just staring out into the distance. Tracing her gaze, she noticed a dusted earth pony sneaking across towards the microphone stand on the other side of the platform; the Commissar's stallions, still too busy with their study of the ancient manuals, never noticed her.

She was getting quite close to the microphone now. *Should I stop her?* Lyuka wondered, glancing upwards at Celestia. After all, that pony was quite obviously an unauthorized civilian.

However, it was equally obvious from Celestia's gradually widening grin that she also was a vital part of the goddess' plan. Shrugging, Lyuka sat back to enjoy the fireworks that would undoubtedly follow.

The pony had completely skirted past their security consignment now, and was galloping the final stretch towards her destination. As she approached, Lyuka noticed that, underneath all that grey dust, the pony's skin was a powerful shade of pink.

“Good morning, everypony!” she hollered into the microphone, “And say hello to your new Field Marshal, Pinkie Pie!”

“What on Equestria-” the Commissar sprang to attention, but a stern gaze from Celestia silenced him. This was her game.

Meanwhile, the pink pony carried on:

“You know, there seems to be an awful lot of grimdark happening here today,” she happily twittered away, her saccharine voice echoing all around the facility and reaching the ears of everypony for miles around, “Explosions, screaming, double explosions!”

This can't be real.

“A lot of ponies are kind of on the edge from all this stress. I'd prescribe them a party, but they're too boring for that. Well, no they aren't, but they think they are, and there lies half the-”

Please say you're kidding, Lyuka prayed as she glanced back towards Celestia, This is a joke, right? You've got to have a better plan than this.

“-anyway, I'm getting sort of away from what I wanted to say. The point is, stressed ponies aren't smart ponies. Stressed ponies are silly ponies. And silly ponies do silly things!”

Lyuka sighed in relief as she noticed the wide grin on the princess' face. *Thank heavens. She's just having fun. The real rescue will come any minute now...*

“Like all these Ironhoof and Panzerhengst fellas. Now, don't get me wrong, they've got all the right ideas: Hide everypony in a nice cosy shelter. Serve them all delicious cookies. Save Equestria from a giant explosion!”

Any minute now...

“But that doesn't mean they're doing anything right! In fact, those sillies are the worst thing ever! You start following them because you hear them *talking* about cookies for everypony, but when you get there, all those cookies end up being bread and water in a smelly underground stable! Just because you talk about doing something, and even think you're doing it, doesn't actually mean you're doing it right! “

OK, thanks for the nice life lesson, but can we rush over to that part where we stop the unstoppable explosion now? Hint hint?

“And that's why we don't trust politicians!” the pink pony victoriously finished off her grand speech, turning away from the microphone and haughtily marching off the platform.

For once, Lyuka wished *really really hard* the princess could actually hear her thoughts.

Who says she can't? And that sounds really uncomfortable, by the way.

Her cheeks flushing, Lyuka immediately petrified to absolute stillness, trying very hard not to think about anything. Especially that.

“No, wait!” Pinkie squealed, then quickly hopped over to the microphone again, “That's not what I was going to say at all!”

“The point is, those silly ponies in charge did a lot of silly things. They promised a lot of things, as long as you would just listen and do what they said. So, you did, and things turned out pretty bad.”

“But that doesn't mean the *ideas* were wrong! It just means that the ponies were silly! And now that there's a new Field Marshal in charge, things are gonna change in this town! First of all, there's going to be a lot more parties! Not on Fridays, that'll be rocket time, but every other day-”

Unable to bear any more, Lyuka turned her eyes away from the jabbering Pinkie. Looking at anything else was better than at that so-called 'Champion of Celestia' that was standing there, making an utter joke of everything. Everypony was going to die, and it was all because of her.

Scanning the sands below, however, she slowly realized something; the ponies weren't running away any more. There was no more screaming.

Instead, everypony in the Cosmodrome was staring at the nearest loudspeaker pole, a mixture of utter confusion and lost befuddlement on their faces. They were all thinking the same thing as Lyuka, apparently.
What the-

Glancing up again, she noticed Celestia was standing near the microphone stand now, just behind Pinkie. The pink pony apparently noticed as well, as she hurriedly cut short her long list of promises:

“Anyway, here's my- uhhh, assistant – princess Celestia!”

“Thank you, Pinkie,” the princess smoothly took over, “Now, my little ponies, listen up. There's a lot of work to do; my stopgap enchantments can't be sustained forever, not without constant oversight. But there's a permanent solution which awaits us, just as long as we all work together. Trust me now as I say this: Follow orders, and not one pony will die today.”

“Also, there'll be cake!” Pinkie pipped up from behind her.

Lyuka didn't want to laugh. She sternly refused. *This is the single, most stupid, waste of-*

She didn't manage, though. Tears began streaming from her eyes as she descended into bouts of laughter. Her brain, having run on pure adrenaline and stress for the past few hours, was more than thankful for this excuse to laugh.

Pinkie was right; ponies just weren't built for grimdark.

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“Somepony turn that stupid noise off!” the surgeon yelled as Pinkie's words flooded the bunker, echoes bouncing off the metal walls and resulting in a great cacophony of chaos, “I'm trying to concentrate here!”

“With pleasure,” Cherry grinned. One swift kick of her hind legs later, and there was peace.

“Clamp,” another surgeon demanded.

A nurse quickly brought up a whole basketful.

“Another number twenty three.”

“Forceps.”

“Number four.”

The three specialists steadily whittled on, standing in a semicircle around the unconscious Zvezda as they levitated entire groups of various instruments all around. Every so often, they'd bark another order, and a

new nurse would come up to dispense a new device, or take away an old one.

“Just where did all of you ponies appear from, anyway?” Cherry whispered to one of the new arrivals, a nurse who was preparing another batch of bandages.

“Main yard,” the stallion whispered back, “The Chief Designer got brought in, and there were two dozen of us, all trying to fix what turned out to be a simple case of insomnia. You should have seen the *look on her face* when she woke up and heard her best comrade-engineer was in surgery here, while all of us were with her.”

“Huh,” Cherry raised her eyebrows, remembering all the Director's grandiose speeches about unity and equality. *Not just fluff, eh?*

“Will she be fine?” she resumed, gesturing discretely towards Zvezda.

The nurse chortled: “Miss Skies, you've got Doc Verdure *herself* standing right there. I'm telling you, when your friend comes out from underneath that scalpel, she's going to be better than new.”

“Another canister of C.E. here! And make it snappy!” one of the unicorns bellowed from Zvezda's side.

Cherry smiled as she saw the massive team work together in perfect unison, levitating instruments and carrying additional supplies. A bright magical field filled the entire room, and the doors of the office never closed as more trays of equipment were continuously ferried in.

Now *this* was the attention Zvezda deserved.

~~~~~

“A little to the left! Come on, bring it up!”

Once again, the Commissar was doing what he was best at: Yelling loudly at incompetent ponies. Except now, he was under the firm oversight of Celestia. Noticing her stern gaze was upon him, he quickly added, “Good work, everypony. We are almost there!”

Geist grinned as he snapped the final metal rod into place, finishing what looked like a giant antenna. Fifty paces on either side of him, other teams were working on their own copies.

“Squadron six, finished!” he yelled in the direction of the launch control platform; from there, Luna promptly nodded in response, crossing another item off her checklist.

“Squadron, retreat!” his commander yelled, and Geist gladly followed. For all the fervour and efficiency of their operation, there was still a giant tower of fire just a few paces away from them, and he was quite glad to put as much distance between it and himself as physically possible.

Upon arriving under the protective umbrella of Celestia's protective field, he turned around in eager anticipation of the upcoming fireworks.

And he certainly wasn't disappointed; already, things were starting to happen. What had once been a giant tower of fire was now squat and bulbous, webs of deep orange hues and brilliant white splotches playing across its surface, distinctly resembling a slow-motion explosion; which is probably what it was. Redstone certainly would have plenty of fun analysing all this later.

“Popcorn?” Pinkie suddenly appeared on his side, carrying two full buckets. After many hours of choking, sweat, and back-breaking labours, it was a welcome reprieve.

He accepted. Munching on the delicious white things, he watched as Luna lifted off the control platform and majestically swept down towards the ball of fire, wings royally outstretched, horn glowing brilliantly.

Geist, discretely comparing Cherry and Pinkie with Luna, grinned to himself. As long as he was dreaming, that right there was another mare he'd never have a chance with.

A brilliant flash of light tore him from his thoughts.

Okay, I'll stop now, promise!

His vision slowly returning, Geist cheered to see the show wasn't over yet; instead, each of the antennas was glowing brightly, a billion shades of

a colour playing across their surface, different for each tower. Together, the seven of them made up the entire rainbow.

At the epicentre of it all hovered the dark outline of Luna, diligently directing the titanic energies under her with all the careful patience of a master artisan. From the control platform, Celestia watched intently; once again with that subtle smile on her face.

Beams of colour fired upwards from each antenna, creating seven pillars that stretched out into the sky. Geist watched in utter wonder. Once, he had been deeply impressed by their work here; but now, he could see technology and science were only a part of the picture. And the same went for magic.

For far too long, ponies had to make do with just one of the two. But now that the Cosmodrome's work was slowly pushing back the boundaries of the technological, who knew what kind of greatness the pony race might achieve when using both magic and science in unison?

Or are they just two sides of the same coin?

He scoffed to himself. Such thoughts were better left to Redstone.

The seven towers of colour slowly bent inwards, folding in an elaborate dance with Luna at its centre; as they did so, little branches of light flared out from their master trunks, reaching for and entwining with the others. Soon, they had formed a round cage around the glacially-advancing explosion.

All that was left now was the master touch. Ever so graciously, Luna gradually lowered her hoof, positioning it precisely above the master node where all seven of the original trunks met up, exactly above the epicentre of the explosion.

There was another flash of light, and the colours stopped playing across its surface; they froze in space and time, not budging a hoof further. The entire contraption stood entirely still, balancing on the edge of reality.

After a few breathless moments, the glow began to fade, both the cage and the explosion gradually turning black.

A silence befell the Cosmodrome; one interrupted only by the steady munching of popcorn.

The colours faded to grey, then to black, then slowly began losing their consistency altogether. Several more seconds later, it had faded entirely out of existence.

The ponies around began celebrating, fervently hitting the ground in a stampede of hooves. Looking at each other, Geist and Pinkie joined in. It might not have been what they had hoped for, but it was still a victory.

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Watching the brilliant display of magical prowess from her hospital bed – Cherry and Sara tearfully standing at her sides – Zvezda produced a sad smile. Yes, on the one hoof, it certainly was nice to finally see everything resolve and come together nicely, without a single pony losing their life.

On the other... watching the bright magic going on in the distance, she sighed. That's how it got fixed, with a simple spell from an immortal goddess. A Deus Ex Machina. Had this been a work of fiction, Zvezda would have demanded her money back.

None of the Cosmodrome ponies had managed *anything*. She herself had been knocked unconscious in the first few minutes, and spent the entire remainder lying uselessly in the sand, before being rescued by somepony else. From what she had heard, Wilhelmina, Redstone, and the rest of the Chief Designers hadn't really done much either, and nor had the armies of other qualified scientists and engineers of the Cape. All the credit belonged to the two royal sisters, Celestia's six Champions, and the Commissar. Not exactly what one would call fulfilling.

*Then again, Zvezda realized as the dazzling spectacle gradually wound down, This isn't a story. In the real world, engineers aren't heroes. When there's a disaster, they don't leap in and save the day; they leave that to the real Goddesses and Champions instead.*

*You're an ordinary pony, Zvez, just trying to get by. Myths and legends don't belong to you.*

It was the truth, she knew it was; never for a moment would she have ever claimed she was special in some way, or that she held a special place in the history of Equestria.

Working in such a crazy place, though, it was sometimes hard to remember that.

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By the time the first emergency trains had begun arriving at the Cape's railway station, night had arrived. Watching the multicoloured masses murmur excitedly amongst each other as they boarded the motley assortment of various wagons and carriages that had come from all corners of the kingdom, Wilhelmina smiled. Double-checking with a brief glance at a report from the Commissar, she looked up to Celestia:

"Everypony to the last, my Princess, all safe, healthy, and accounted for. Rather unexpectedly, I must say; The doctors claim that nothing could have survived as long as some of these ponies had inside that smoke. And the stadium miraculously collapsed just just as the last pony managed to leave. The heavens certainly smiled upon us today."

Celestia replied with a subtle grin, and nothing else. Looking towards the train station again, Will produced a smile of her own.

The annoying part of her brain soon spoke up, however, and wiped it right off her face. Glancing worriedly at Celestia again, Wilhelmina began:

"Is... is this how it ends, Princess? Without even a single success?"

There was a grim silence.

"I can only do so much, my dear Wilhelmina," she replied after an eternity, "I can guarantee I won't cancel the Programme myself; however, it is up to the Assembly to determine just how much money they send you. And while I am certain you have some allies, I am afraid they are not very common."

"We need half a year," Wilhelmina remained adamant, "Give us that, Princess, and we *will* launch. You have my word."

"For Equestria's sake, I hope you will," Celestia replied silently.

Luna suddenly landed between them, upsetting their quiet conversation. Prodding her playfully on her shoulder, the princess of the sun grinned. Her little sister prodded her back, and the two laughed.

“So, Luna,” Celestia began after the two had finished, “I trust today has been educational?”

The smile disappeared off her sister's face. And off Wilhelmina's.

“Are you telling me-” Luna haughtily began, but was cut short:

“Of course not! But I'd never waste such an opportunity either. *Anything* to make you stop using that 'traditional Canterlot voice' as soon as possible. We got rid of that tradition for a very good reason, and I don't want to see it return *ever* again.”

“Sowwy, Tia,” Luna whispered softly, hanging her head low towards the ground; just a *little* too cutely to actually be sincere.

The two immortal sisters burst into another bout of laughter. By the time they had finished, the royal carriage was up and running, ready to go.

“Well, then, Director,” Celestia nodded, standing in the massive doorway of the vehicle as it began to climb into the air, “Until your next launch.”

Chapter 11

The Grand Pony Express

“...right, so now all we need is your signature here, here, and here.”

Grasping the pen in her mouth again, Zvezda rolled her eyes as she began working through the triplet of new forms on the Commissar's desk. Paperwork was incredibly annoying, but when working for a government-funded agency, it was unavoidable.

After she had signed all the appropriate papers, the Commissar turned back to sort through the shelves at the back of his office some more. Meanwhile, Zvezda passed away the time by reading through what she had just signed; mostly completely irrelevant details about her medical insurance, registered sector of permanent residence, bank account, and so forth. All of those were handled by public institutions anyway, so Zvezda had no idea why they couldn't just simply sort this stuff out amongst themselves without bothering her.

Unfortunately, whatever its reason, the bureaucracy was far too well entrenched for anypony to complain. Finally finishing up, the Commissar turned around, and put one more paper on the table:

“One last C-F eleven, please, and is finished.”

Sighing deeply, she filled out the stupid thing, quite convinced she had already signed that exact form half an hour ago; either she was going crazy from all this reading, or the stallion had simply managed to misplace it amidst all these tall towers of paperwork that formed his office. Both seemed equally likely.

Checking she had ticked all the right boxes, the Commissar nodded in satisfaction. After filing all of her paperwork into his saddlebags – ready to take it to the copying machine – he reached under his desk again.

“Thank you, worker. Here is two months' pay,” he tossed a bag of coins over to Zvezda, which she caught with her mouth and promptly stashed away in her saddlebags, “Train leaves in one hour. And no talking to spies while away on leave, are we understood?”

“Yes, Co-” she began, conditioned by reflex, but immediately fell into an extended coughing fit. The stallion gave her an evil eye – as if she was somehow purposefully upsetting his authority – then nodded and gestured towards the door, not even bothering to say goodbye.

Zvezda slowly left the office, not bothering either. As soon as she had closed the door, Sara and Cherry were all over her:

“So? So? How did it go?”

She nodded in reply.

“Lucky, lucky,” Sara shook her head, “I’ve looked at our schedule for the next two weeks, you know. I *wish* I was away – nevermind with full pay.”

Softly smiling, Zvezda chose to keep the fact it was actually two months’ pay a secret from the purple unicorn.

“Actually, it’s not that great,” Cherry shot back, “I mean, you almost *die*, and all they give you is a bit of paid holiday? I’d sue if I were you.”

Zvezda shrugged. Suing the state for every inconvenience was something the rich ponies did to pass away the time when bored. Besides, she was quite sure she signed some kind of waiver or something between all that paperwork...

“You sure? My dad has some great lawyers! Especially this one stalli-”

She definitively shook her head.

“Zvez, Zvez, sometimes I just don’t get you,” Sara smiled, patting her on the back, “Anyway, enjoy your time off. And bring back some more books! I’ve already read all of ours seven times over by now.”

Not wanting to speak in case her throat flared up again, Zvezda instead put on an exaggerated expression of sadness, gesturing towards the other end of the corridor. Sara shrugged:

“I’d love to see you to the train, but if stay any longer, Sunny’s going to have my flank. She’s dead serious about getting back on schedule.”

The two mares gave each other one last hug, then Sara quickly galloped off into the distance. Looking on until she disappeared, Zvezda then turned to Cherry:

“Aren't- aren't you busy too?”

“Eh,” she smiled, “They can't exactly fire me, can they now?”

Laughing, they set down the corridor. Soon, they had reached the desert outside, and began lazily walking down the well-trodden path to the train station. All around them, the grounds of the Cosmodrome were awash with activity, busy ponies carrying heavy pieces of equipment and equally-heavy stacks of paperwork back and forth between bunkers. Even now, a thin grey layer of fine dust covered most surfaces, and Zvezda took care to only breathe in lightly; the chief physician had warned her that, until the Cape was fully decontaminated, she shouldn't really be walking outside a great lot, just to avoid any further complications.

After a while, Cherry broke the silence:

“Plus, I haven't really seen Redstone since the Princess left. I think he's locked himself in his room. Probably communing with his graphs or something, I dunno.”

“How-” Zvezda began, then cleared her throat and tried again, “How're you doing, anyway? In class, I mean.”

Cherry waved her hoof, “Could be worse. With Dash there, I'm no longer worst at maths. Close second, though...”

“Think you'll manage?” Zvezda asked, genuinely caring for the orange pegasus. Cherry chatted to her a lot, but this would mark the first time she was actually actively listening. With interest, for that matter. The accident sure has changed things, and not just the obvious ones...

“I'm getting there,” she smiled, “Geist helps me a lot with the theory. And in the simulators, I'm second best, right after Bliz, which counts for a lot I think. I could be third or fourth in line.”

That actually came as a surprise to Zvezda. “That... low? That doesn't make sense. I've seen you fly-”

Cherry scoffed, "You should see Bliz. Or Dash, actually. Those mares are just impossible."

"Best," Zvezda coughed again, "Best in Equestria?"

"Pretty amazing, yeah."

They fell into silence again, quietly walking side by side as they approached the train. Before them, a few last tech-ponies were still whittling away with their blowtorches at the carcass of a final carriage, but besides from that, the entire train had already been broken down into structural components for the rockets. Looking at the quickly-disappearing skeleton of that one remaining carriage, Zvezda noticed it was a lot sturdier than the original design one she had arrived in, all those months ago; knowing the Chief Designers, however, that was probably just a by-product of packing more rocket segments into one wagon, as opposed to an actual dedicated safety improvement.

The locomotive itself was still nowhere to be seen, probably taking on fuel in the depot on the far end of the tracks. Aside from the custom-built transport carriage, there was only one other wagon on the rails; a small, half-length coach awaiting its turn to be hooked up to the train. Though heavily blasted by sand and dust – like everything else around here – it was still quite possible to see the green finely-lacquered panels underneath, and the gold gilded text inscribed on the sides. With a smile on her face, Zvezda also noted it actually had such luxuries as glass windows. And doors.

Turning around, she hugged Cherry for one last time, causing the aspiring equenaut to erupt into tears.

"Just make sure to come back, alright?" Cherry half-sobbed, half-whispered into her ear, "Things'll be a lot more boring without you around."

"Don't worry," Zvezda smiled, "I wouldn't miss you for the kingdom."

The two mares remained embraced for a while. Slowly, Zvezda began to realize she had no way of escaping from the pegasus' mighty clutches.

"So, heh, I guess I'll be seeing ya," she smiled nervously, glancing around. In response, Cherry's hold only tightened, and Zvezda could feel the air being pushed out of her.

“Cherry-” she wheezed, “Please-”

The mare suddenly squealed something, then was gone in a blur of orange. Recoiling as she took deep breaths, Zvezda wondered just what she was up to.

She was back as fast as she had gone; prompted by her survival instincts, Zvezda quickly jumped backwards, just in time to avoid a second hug.

It took a second to realize just what had changed; Cherry was now holding a large, loosely bound folder in her mouth. She tossed it over; Zvezda, though somewhat puzzled, caught it, then gave her friend a long questioning look:

“Just some stuff about the Commissar ponies,” Cherry smiled back, “There was a lot of them running around during the fire, and Sara told me you were interested in them.”

Now very intrigued, Zvezda put the folder on the ground and, opening it, examined at the front page; it was entirely covered in a densely-packed, miniature font. Zvezda glanced through the first few lines:

“Feeling the ten thousand tonnes of steel that made up the mighty star cruiser Starmane under her hoofs, the Captain couldn't resist a smile. Soon, she'd become the first mare in Equestria to step on the surface of an alien world. Soon.

Suddenly, an alarm began to blare! The Captain's eyes narrowed. “Captain Skies!,” yelled out a rating from somewhere in the depths of the great navigation deck. “We have a-”

“Wait!” Cherry yelped, tearing the page away from underneath Zvezda's eyes, then clutched it tightly against her chest, “No idea how *that* got in there. Heh.”

Zvezda prepared a biting comment, but seeing the pegasus was quite evidently flustered enough anyway, settled for a mere subdued smirk. Continuing to smile with embarrassment, her friend awkwardly glanced between Zvezda and her great work, obviously wondering what to do next. Eventually giving up, she gave Zvezda one last wave, then immediately took to the skies.

A wide grin breaking across her face, Zvezda leafed through the remainder of the folder, and, finding no more embarrassing secrets, stuffed it in her saddlebags. The Commissar was interesting enough, sure, but he could wait. Right now was the time for a holiday.

“Miss?” came a respectful voice from behind her. Turning around, Zvezda saw a surprisingly well-groomed earth stallion, of chestnut skin and green eyes and about the same age as her, wearing a white engineer's cap and standing at attention. With a brief glance, she noted he was rather fetching, and giving off that nice dependable air of a responsible stallion. Then again, one didn't exactly have to try hard to immediately look better than ninety percent of the ponies working here; aside from the equenauts, most failed to adhere to even the most basic standards.

Of course, no matter how attractive the stallion might have otherwise been, Zvezda's eyes immediately slid off him. For, behind in the distance, slowly reversing out of the depot, stood the most breathtakingly beautiful thing she had ever seen; a giant monolithic cylinder of black steel that effortlessly slid along the tracks, almost resembling some ancient, awakening beast. Towering at two times the size of a traditional locomotive, it almost resembled a rocket in its design: Aerodynamically shaped, with no protrusions in its surface and the control cabin smoothly merging into the main pressure hull. Even the tender was fully integrated into the hull, almost impossible to distinguish from the rest. At first, Zvezda thought the thing was supposed to run on magic, as she could see no chimney, then finally noticed it; a streamlined, elongated droplet mounted at the top, three radial openings at either side, which in turn were filled by a delicate metal mesh.

Zvezda just stared at the incredible machine. As a little filly, she had always admired trains; all those moving pistons, revolving governor valves, shifting gears, spinning axles... had her younger self seen this, she probably would have spent the next three years in a state of untouchable bliss. Even today, her eyes lit up as they glazed over the arrays of delicate oscillator-cams that tantalizingly flashed from underneath the smooth metal skirt of the main hull...

“Amazing, isn't she?” the engineer finally gathered what Zvezda was looking at – with just a hint of disappointment in his voice – then wondered up to her side to share the view. She absent-mindedly nodded, still entranced by the sight. The trains that usually ferried components to the

Cosmodrome tended to be more impressive than common passenger trains, obviously, but this was a different league altogether.

Continuing to examine every detail of the giant engine, her brain finally snapped out of its brief fugue to realize something:

“Eight large-diameter m-wheels? *Eight?* They can't possibly all be powered.”

The engineer stifled a laugh, “This isn't one of your dinky Galloways, miss, oh no! Four separate power axles. Two cylinders each.”

“Eight cylinders?” Zvezda scoffed at the obvious blustering, “Now that's just ridiculous. I worked on the Thousander-series Derbys, and those were bad enough to get working with just four!”

Although her throat still itched, the excitement was such to push that concern all the way to the back of her head. She'd probably regret it later, true enough, but for now there were locomotives to discuss.

“Wait,” the engineer pony turned his head, “*You* worked on the Thousander line?”

“How do you think I got this job?” Zvezda grinned, “Know that strange little kink on the fourth reinforcer stay? That's me, alright. Gets rid of sulphur build-up in the superheater.”

The engineer whistled respectfully. After a brief while, he offered up his hoof:

“Call me Ray. *Brandenburger Stahl*, engineer first-class.”

“Zvezda,” she smiled, lowering her eyes to the ground, “Star Walker assembly team.”

“I guess I shouldn't be *too* surprised to see ponies like you here,” he smiled, shaking her hoof vigorously, “After all, that black beauty up there owes you her existence.”

“Oh, come on,” Zvezda laughed, looking back to the giant locomotive, “Something like that couldn't even get drafted in a year. Nevermind built.”

“Who says it didn't get drafted earlier?” Ray winked, “Point is, there just wasn't any need for it. It'd just sit on some boring desk, doing nothing. But then, suddenly, you lot appear out of nowhere, and now there's demand for eighteen-hundred ponypower engines! Took 'em a while, but they finally got the first one finished. And gave it to me for its test run.”

“Test run?” Zvezda whispered, studying the deep dark hull again. Ray must have been right; a paintjob *this* good couldn't possibly have been more than a few days old. Turning to the engineer again, her eyes lit up:

“Do you think I could-”

“Somepony who worked on the Thousanders?” Ray cut her off, “Miss, it'd be my pleasure!”

A wide grin appearing on her face, Zvezda quickly trotted up into the cab, eager to see just what kind of serious power this incredible engine could pony up. She didn't give the luxurious passenger carriage behind them another look; all it took was a brief glance at the dozens of massive dials and indicators, and the little filly inside her began dancing.

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“Professor?” Geist tapped again at the door of the old stallion's office, fearful to disturb him, yet still persistent in his approach, “I know you're in there!”

He was met with little more than silence. Pushing his ear up against the wooden planks, he could hear the fervent scratching of a pen against paper, coming from just behind the door. He briefly tried listening for pauses, but after thirty solid seconds of unbroken scratching, just gave up.

*Poor professor.* The ponies of the Cosmodrome in general had been taking things rather easy since the accident, just using the time to recover, but not him; Geist still remembered that shell-shocked expression on his face as he wobbled off the launch pad those two days ago. It appeared almost comical at the time, but the old stallion had proceeded to lock himself in his office, and hasn't been seen outside since.

Shaking his head, he tried again:

“Professor? Listen, I know you're working, but you've got to eat!”

“Silence!” came a sudden order from inside the office. Despite its insulting tone, Geist was relieved; if nothing else, at least the poor pony could still speak.

“The supply train's arrived today, too. Lots of newspapers,” he disobediently carried on, glancing at the front pages of the several papers in his basket. Not surprisingly, they were full of pictures of the explosion. There were colourful paintings, artists' impressions, explanatory diagrams; but no photographs. All the available film was still confiscated by the Cosmodrome, undergoing analysis. Probably by Redstone himself right now, come to think of it.

“Is irrelevant. Even stupid foal could predict what they'll be saying!” came the reply from behind the door, “Now, go away! These calculations require absolute concentration!”

Geist drew his breath again for another reply, but stopped midway through. Once he had started doing his sums, Redstone wouldn't stop even if his mane got set ablaze. Not before he was done, at least. He had been that way since always, and if anything, the accident would have pushed this attitude even further. There wasn't anything to be done.

Shrugging, Geist gently lowered the basket full of hand-picked produce – still fresh, a rarity here in the desert – before the door. With a deep sigh, he picked up yesterday's basket, then slowly backed out of the corridor, taking great care not to emit any disruptive noises.

Trying to push the depressive thoughts out of his mind, he retreated to his quarters, intending to take advantage of the Professor's brief absence to finally get some sleep. More sleep could never hurt, right?

Lying in silence on the upper floor of his bunk bed with his eyes closed, however, he reconsidered. Deprived of its visual input, his mind concentrated all the more on the one remaining sense it had, and the silence quickly became almost deafening.

It was a deeply unnatural sound, and Geist couldn't even remember the last time he had heard it. All the usual background sounds were absent; the



frenzied screams of ponies as they galloped away from toxic chemical spills, the piercing impacts as expensive pieces of equipment slipped from cranes and shattered all across the floor, and even the occasional alarm siren or loudspeaker alert as one of Lyuka's experimental engine designs exploded again. Not one lathe shrieked as it cut through metal, and not one obnoxious pump was running.

Perhaps most significantly, however, the corridor outside his door was quiet as well; and that *never* happened. No pony was playing loud music, swearing vigorously, or even just stomping around with incredibly loud steps.

On a normal day, all this would have been a relief, but today Geist realized just how familiar and comfortable that palisade had become. Without it, the Cosmodrome felt like a graveyard.

A single train whistle cut through the air, and his eyes lit up; only to dim again seconds later as he realized that the supply train was now leaving, not to be seen again for a week. Unpacking the train had been the one brief bout of commotion they have had since the accident, and now even that was gone.

Fidgeting around in his bed, trying to cover his ears with the pillow and the blanket just to block out the silence, he scrambled to push the thoughts back and get some sleep. Of course, that only made things worse.

Giving up in frustration, he jumped off, desperate for something to *do*, to focus his attention on and block out the rest of the world. His eyes glazed over the many newspapers scattered across the room – mostly stupid tabloids, all loudly mocking the Programme in garish colours – then stopped on the sketch of his Star Walker capsule simulator.

Just how much had he wasted on that stupid thing? Probably hundreds of nights, gallons of coffee, thousands of chewed-through pencils. *And it was all for nothing, just because of one single-*

A knock on the door derailed his train of thought. Puzzled, he was about to invite the unknown pony to come in, only to notice Cherry was already peeking her head inside:

“Hi!” she chirped, looking around his quarters. Immediately, Geist began wishing he had had at least ten seconds to clean up, just to get rid of the

most horrible mess. If he was remembering correctly, this was the first time Cherry would see his quarters, and giving such a poor first impression was just beyond embarrassing.

“Uh... hi!” he spoke back, quickly running up to the doorway and trying to block her line of sight. Unfortunately, not very successfully:

“Is this really your room?” she asked, still looking around, “I mean, it's kinda-”

Geist's mind began scrambling in desperate attempts to somehow rescue the situation. *Roommate's fault? No. Earthquake? No. Halfway through cleanup? Maybe... not. Redstone?*

“-small,” she instead finished, “I mean, bunk beds? Seriously?”

Geist looked around his room again, very much relieved, but slightly confused, “What? No! It's just a normal room.”

Uninvited, Cherry nevertheless slipped past him and immediately began snooping around:

“Come on, you don't even have a fridge! Or a bathroom!” she declared, steadily opening every cupboard and drawer, and carefully inspecting the contents of each single one, “Shouldn't you complain to the Director or something?”

Geist stood immobile for a while, simply confused by the orange pegasus' words. He looked around his room again; one certainly couldn't call it a palace, obviously, but it was in no way tiny. There were two tables, a bunk bed, plenty of shelves, cupboards integrated into the walls, several lights, and even a small, round window, equipped with blast-proof shutters. Well, that, and a lot of scattered mess everywhere, obviously; books, piles of paperwork, loose pens and protractors, covering almost every square inch of the floor. Cherry had to almost dance as she navigated the treacherous terrain, all the while checking out every nook and cranny of the apartment.

Suddenly noticing her sweep was coming closer and closer to a *particular* stash of magazines in the corner of the room – intended for, uh, personal use – he urgently surged forward, attempting to distract her:

“There's a bathroom just down the hall. And a kitchen next door.”

“Yeah, but, *shared?*” Cherry rolled her eyes, still jutting between precarious piles of stacked documentation manuals, “Come on! How do you manage?”

“All the tech-ponies live like this. It's normal! Didn't you ever live in a college dorm?”

“Well, duh,” she replied, not slowing down at all, drawing ever closer to *that* pile, “I admit, that was pretty bad. But even there we had a minibar and room service! This is like a janitor's closet!”

“You really should- wait, room service? You're joking, right?” Geist asked, trying to manoeuvre himself between Cherry and his objective with absolutely zero success.

“Of course not!” she insisted, masterfully managing to side-step him without a single use of her wings, “And to think there's two of you, just stuffed in here!”

OK, she was getting way too close now. Desperate, Geist decided to do the only thing he could think of right now: *Pretend to trip, then fall on the pile and kick it over, under the bed. Like a boss.*

“Just what kind of university did you study at, anyway?” he began, making sure to keep eye contact as he approached the pile, “Because if you think this is tiny, then you might in for a big surp-RIIIIIIUGH!”

He did trip and fall over; unfortunately, for real. His hoof slipping on a rogue protractor, he fell face-first into a tall tower of calculus books, which promptly proceeded to topple over, leaving him with additional injuries. Clutching his nose as he lay on the ground, he could see the black matte cover of the magazine in question not two inches away from him, mocking him silently.

*Great going, 'boss',* his brain snapped sarcastically.

“Geist! Are you alright?” Cherry gasped, quickly making her way over to him. She promptly began checking over his injuries, inspecting his head and nose for bleeding, then stopped; obviously having seen the magazine.

"What's this?" she chirped, picking the booklet up. A quick glance through its pages was all that she needed.

*Why did you have to leave that lying there? Why?* Geist hit his forehead repeatedly as he watched Cherry slowly lower the booklet, shaking her head as she blinked:

"Honestly, Geist?" she began, "I mean, really?"

His cheeks flushed red with embarrassment.

"Hoofington Post? I thought we agreed on this!"

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Eyes closed, Zvezda let the wind obliterate her mane as she struck her head out of the locomotive window, feeling the air hit her in full force. She could hear her heart thumping in her ears, her skin itching as grains of sand bounced off; and even though the desert sun was bearing directly down at her, the rushing air kept it cool, even cold. The overall sensation was exhilarating, of bliss; an emotion she hadn't felt in a long while.

After a few more seconds, she rapidly withdrew into the cab again, completely overwhelmed. Clearing her eyes, she saw a tech-pony quickly shut the window after her, and suddenly burst out laughing.

"You feel it?" Ray patted her on the back, shouting over the roar of the engine, and Zvezda couldn't help but nod, "Just taste that wind! Hundred twenty miles per hour!"

Her heartbeat slowly calming down, she closed her eyes again. The rapid, cyclic strokes of all eight cylinders pumping at full steam could be felt even here, in the isolated driver's cab, and the floor shook powerfully as the massive engine surged on ahead. The harsh, repeated thumping noise coming from the automatic boiler stoker just underneath added to the sensation, blending in to create an intoxicating dance of sense and sound. Probably what a rocket felt like when it was blasting off into orbit. *Almost*, Zvezda smiled to herself.

“Chief, we cannae keep this up forever,” the second pony on Ray's team sounded from the back of the cab, speaking with a strong coal belt accent, “At this rate, we'll be runnin' empty long before reaching tha' next depot!”

“Sure, sure,” Ray quickly nodded, reaching over to pull at a massive lever. Zvezda heard the auto-stoker react almost immediately, winding itself down to near-nothing. The sound saddened her. For a few minutes there, her and Ray had been the fastest earth ponies in all of Equestria. Perhaps even in all of history.

Oh well, she sighed, No joyride lasts forever.

There was also something else to the feeling, though, much harder to determine. A sensation permeating her entire self, a soft glow she had never felt within in the confines of the Cape, subtly urging her to get as far away as possible, drawing her towards the east. It was almost impossible to describe, like having a sense she never knew she had before. The more she tried to isolate it, the more it slipped her grasp. She knew she has had 'hunches' before, but this was completely different; instead of an alarm bell in her head, it was almost like a pull in her hooves.

“You know, the Company sees me as a mature, responsible engineer who'd never waste valuable resources on something like this,” Ray smiled at Zvezda, shaking his head and tearing her from her thoughts, “But this is the straightest, longest stretch of track in all of Equestria, you know? And they just gave me the most powerful locomotive on the planet under me, with not one annoying wagon dragging it down. I'd be a fool *not* to try!”

Bursting into yet another bout of laughter, Zvezda nodded knowledgeably.

“Closest us earthers get to heaven,” he continued, adding a mischievous wink, “At least before your job is done, eh?”

That wiped the smile right off her face. She knew the friendly stallion hadn't meant it, but she couldn't help but think back to the terrible accident. That choking feeling as her lungs seized up and the world grew dark around her, the screaming and panicked galloping of terrified ponies... almost unconsciously, she felt her neck with her hoof, just to make sure it was still there.

The stallion appeared to have read off her expression, and suddenly also fell quiet, shifting his eyes towards the complex instrumentation. They spent the next few moments in complete silence, each just listening to the rumble of the mighty locomotive as it gradually settled itself down into a slightly more reasonable pace. Zvezda stared out the window, watching the featureless desert stream past them as they careened along the tracks.

“Right. Forgot you were on vacation,” Ray broke the silence with a forced laugh, “Sorry. I’ll stop reminding you of your job now.”

“No, no, it’s alright,” Zvezda tried to reassure him back, “I’ll have to face my demons eventually, you know.”

“Oh no, I’d never forgive myself for spoiling another pony’s holiday. Especially not another engie’s!” he wondered over to her, and, putting his hooves on her shoulders, swivelled her around to face the massive control panel, “Here. You take over for a while!”

Zvezda stared at him uncertainly, not certain whether this was a joke. “I- I just worked on the boilers. I didn’t actually-”

“Ahh, you’ll do fine,” he smiled, putting his conductor’s hat on her head, “Not like there are any passengers to complain!”

She looked at the dozens, if not hundreds, of little valves, pressure gauges, winding pipes, and water level indicators that littered the entire front wall of the giant drivers’ cab. She remembered a few scattered memories of the Thousander controls layouts, yes, but this was leaps and bounds ahead.

Zvezda smiled to herself. ‘Space-age’, one could almost call it.

Over her shoulder, Ray pointed to the largest gauge on the panel:

“That’s the main boiler pressure there. Pushing it over to the red is a no-no. Even yellow is cutting it a bit close. It puts too much strain on the feeder tubes, you see.”

The indicator needle was currently all the way at the far end, flickering deep inside the blood red zone, just skirting the edges of the white-marked emergency release level. Zvezda gave the stallion a stern look. He suggestively looked towards the ceiling:

“Ooh, somepony's been a bad engineer! Guess we'd better lower the pressure, eh?”

She didn't need any further prompts. A wide grin on her face, she stood tall on her hind legs, then pulled twice at a long, white cord hanging from the top of the cab.

The whistle boomed across the desert, probably heard for dozens of miles. Her smile growing even wider, she pulled at the cord again, drowning herself in the sound.

She had *a/ways* wanted to do that.

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“No, no, and no! Just who do they think they are?”

Standing at the corner of the equenaut canteen, still halfway into reaching for a cut of delicious chocolate cake, Cherry stared at the frenzied mare with fear, trying very hard not to be seen. Meanwhile, the pink pegasus was utterly enraged, smashing chairs and knocking over tables.

“Scud!” Ala suddenly rocketed into the room, obviously summoned by the sound, “Just what the hay's going on here?”

“Oh, nothing!” she paused midway through destroying a plate, scoffing as she threw her head back, “What did you *think* I'd be doing?”

“What?” Ala stared back, rapidly alternating between the enraged pegasus and the shattered tableware, “Are you drunk?”

“Drunk?” Scud laughed, turning her head to glare at the chestnut mare, “Sure. Go on. Just keep up with your pointless accusations. See if I'm surprised anymore.”

“Scud, this isn't funny!” Ala insisted, “Now, stop trashing everything before Redstone reprimands us all!”

“Redstone? That chalky ol' stallion?” the pink pony snorted in response, “I bet he's already fossilized in his office by now!”

Cherry took advantage of the rising volume by slowly starting to back away from the argument. Tempers had been rather short-cut amongst the Seven after the accident, but this mess was just Scud being herself, and Cherry absolutely refused to get caught up in it. Of course, right as she was in the doorway, she knocked over a particularly large metal pot. And just as there was a brief break in the argument, too. Both sets of eyes turned to her:

“You!” Scud turned her rage around, “I should have known it'd be you! Listenin' for more dirty secrets now, are we?”

Cherry shook her head briefly, utterly lost as to what the stupid mare was on about. Ala was right; she must have had one too much to drink.

“I don't-”

“Oh, really?” Scud approached her, “Then, how do you explain *this*?”

She stuffed one of her glossy tabloids right into her face; so close, in fact, it took Cherry a few seconds to fully focus on the cover picture.

It was Scud, of course: Wearing long, silky socks over her hind legs as she stared at the camera with a look of surprise on her face, lying on a large feather bed with both wings spread, and posing herself suggestively. The long-heeled, cast-iron horseshoes just underscored the point. And, topping even that, she was twirling an equenaut's helmet on her hoof. Cherry scoffed to herself. Did that mare really have no self-respect?

“Look, they asked me too, you know,” she began haughtily, “Even promised really good money. If you didn't want pictures like that getting out, then you shouldn't have-”

“What-” Scud cut her off, glancing between the magazine and Cherry in confusion before realizing what she was on about, “Not that, you doof! That's old stuff! Just read the stupid headline!”

Cherry glanced at the page again, forcing herself to stop wondering just how Scud had managed to make her wings look like that – *Must be*



*airbrush. Or extensions. There's just no way those are natural* – then read over the inane, bold font:

*“TROUBLE ON CLOUD 7?*

*Scud Firewish admits flaming-hot affair with lowly janitor!*

*Husband says he had 'no idea'“*

She re-read it once again, just to make sure her brain hadn't restarted itself halfway through. And, after that, once more, still equally lost. Finally giving up, she glanced at the fuming pegasus:

“What's all this got to do with me?”

“What's it- What-” the mare began screaming, then stopped as her face reddened with pure, unbridled rage. Taking long, deep breaths, she stared at Cherry resentfully. After her blood pressure had fallen again, she finally resumed:

“Wow. Just wow,” she got out through her gritted teeth, still exhaling through her nose, “I know you were cold, Skies, but never this much. Not only do you sneak into my room and steal my diary, now you just stand there without batting an eyelash!”

Cherry blinked. Just what the *hay* was going on here?

“Wait. Are you telling me-”

Screaming in a sudden fit of rage, she cut Cherry off, first smashing the magazine into her face, then slamming her down onto the floor. Flying up into the air, she announced:

“I keep working day and night here, busting my flank just for the mere *chance* of sometime eventually getting into space, and what do I get? You ponies, showing all my secrets to the press! You're trying to sabotage me, aren't you? Get me out of the picture, to make it easier for yourselves?”

“Scud, just calm down and-”

“You know what? I think, I think that I've just about *had it* with this stupid joke of an organization! How many months, how much cheap publicity, and

not a single success? And to think I turned down the Wonderbolts for this. I am *out* of here!”

Flying out through the doorway, she stopped in the corridor and turned around to yell some more, “And don't you think I don't have dirt on all of you! Just you wait!”

Nursing her bruised cheek, Cherry slowly got up and exchanged disdainful glances with Ala. The other mare silently mouthed a few obscenities, then shot off into the air, probably to chase after Scud and appeal her to reconsider.

Cherry bothered with no such effort. Turning around to the door, she calmly left the room, then marched down the corridor to her quarters. On her way, she passed a few of the other equenauts, all standing in the doors of their own rooms. Judging by the puzzled, thoughtful looks on their faces, they must have heard Scud's entire speech too. Not saying a word, she kept walking, eventually reaching a side exit. Once outside the sterile bunker, she immediately took to the skies, soaring high above the ground and letting the soothing cool breeze rush past her, washing away the silent rage.

It was nice and peaceful up here. As she let her mind relax and cool itself down from the stupid argument, Cherry wondered about many things. Equestria's idiotic tabloids. The accident. What would become of her future. Perhaps she could just settle down again and take over the business, as her father had always wanted?

She snorted. *Yeah, right.*

The trouble was, there really weren't that many other options available to her. Aside from flying, spending vast amounts of money, and misprogramming complex computeronics, she had little applicable skills in anything else. Even weather control – the lowliest of occupations, something her pride would never let herself lower down to anyway – was a lost art to her. Born with a silver spoon in her mouth to the president of a grand manufacturing concern, it was never expected she'd ever do such menial labour. A bit of it came instinctively, sure, and she could probably learn the rest, but still... *weather control?* Come on!

Opening her eyes again, she stared at the sand dunes flashing past in the depths below. The Cosmodrome was somewhere far behind her now, and so were the rail tracks. There wasn't even a cloud in the sky.

*Weather control's the stupidest thing a pegasus can do*, she repeated to herself.

*Only simpletons would ever find it fun.*

It wasn't very convincing.

*Buck.*

Well, this was as good a time as any. Slowing down to a hover, Cherry looked around once more to check absolutely nopony was watching.

Confident she wouldn't fail publicly, she concentrated on a small patch of sky in front of her. Just as an experiment.

As soon as she had started, she was immediately stumped.

*Wait... how do you do this thing, anyway?*

Closing her eyes again, she pressed her forehooves against her head and began intently thinking of clouds. Water, rain, snow, anything to do with weather.

She lifted one of her eyelids. Not a notch. Groaning, she began desperately rifling through her memory for anything related. *Come on!* When she was a little filly, she could do this! She still remembered playing rain-tag with the other foals!

No such luck, however. The more she tried to bring back that moment, the more it seemed to slip from her grasp. She kept at it for a few more minutes, attempting anything she could possibly think of; kicking the air, screaming at it, waving her hooves around.

"Tough day, huh?" Rainbow's voice suddenly sounded from behind her, and Cherry almost fell out of the air in embarrassment.

Regaining her stability, she uncertainly turned around to the new arrival. The blue mare was grinning to herself, but hopefully just because of

Cherry's near-fall. And not that other thing she definitely wasn't just trying to do and just failed miserably at. No.

"Wanna join me for a flight?" Rainbow continued, still grinning, "Trust me, it helps more than just kicking clouds."

Cherry quickly nodded, if only to bury her embarrassment. The two pegasi set out over the empty desert, rocketing through the sky, letting the cold breeze swish past them. Letting Dash pick the route, Cherry switched herself to autopilot, letting her mind clear out again.

For a while, each remained lost in their own thoughts. Eventually, however, Cherry couldn't help but speak up:

"You heard Scud's little speech, right?"

Rainbow laughed, "I'd be deaf if I hadn't."

Cherry let her continue, but the blue mare didn't. With annoyance, she pushed on:

"That's like it, then? No opinion?"

"Nope!"

"But, like, you must wonder what's going to become of us."

"Why?"

"Come on, you must think *something* about it!"

"Not a thing!" the blue pegasus grinned, then accelerated and began banking into a steep roll. Taking the manoeuvre as a challenge, Cherry responded with an aerobatical feat of her own, tracing out a high-speed double-eight figure.

A few seconds later, the two mares joined up again. Cherry, catching her breath from the sudden exercise, noticed Dash was still grinning. She prodded her further:

"So, you just don't care about whatever might happen?"

"Why would I?" Rainbow grinned, then spread her wings again, "Now, I'll bet anything you can't match *this*!"

And she rocketed off into the distance again, leaving Cherry far behind. Slowing down to a hover, she watched as the blue pegasus first climbed up into the sky, then folded her wings and began falling like a rock. She plummeted and plummeted, all the way to the point where Cherry thought recovery would be impossible, then kept plummeting. Involuntarily flinching, she watched Dash almost hit the ground, then do what could only be described as bouncing off the air and completely reversing her fall in milliseconds. The manoeuvre kicked up a tall shockwave of sand that kept going for several seconds before merging back into the dunes.

As soon as it had begun, the show was over, and the excited Dash was hovering in front of Cherry again:

“Huh? How 'bout that?”

Cherry tried to fight it, but her enthusiasm seemed infectious.

“Well?” her friend grinned.

Though unwanted, the edge of a smile nevertheless crept onto her lips.

“There you go!” Rainbow raised her hooves in approval, “Whatever happened to 'Just don't mind if you don't make it'?”

Remembering their conversation the night before the launch, Cherry barely held back an irritated snort. Ponies bringing up her own words against her was incredibly annoying.

*Not that it makes them less true, though,* she had to admit.

A part of her mind still protested. What if they got cancelled? Where will she get a job? What if the tabloids keep mocking her for the rest of her life? Spreading fictitious rumours?

*Well, buck 'em.*

So what if they won't quite make it? They still got a chance to participate in something truly amazing. For a few months there, they had carried the torch of history. Cherry wished she could come up with a better and more poetic way of phrasing the idea, then it struck her: A greater wheel. Something far bigger than any of their individual lives. One way or another, their work here will have counted. Maybe not today, maybe not tomorrow, but eventually.

And not many ponies could say that.

“Pretty cool, pretty cool,” Cherry declared, nodding to Rainbow, “Just try *this one*, though!”

She shot off into the sky, fully determined to beat that infernal pegasus at her own game. At least this once.

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Lying in the shade of the massive locomotive, Zvezda looked with much interest at the 'town' around; that is, if the tiny settlement could even be called such. It was little more than a motley assortment of dusty wooden shacks and houses, one rickety clocktower, and not a whole lot more. Even the 'train station' – something which ought to be the pride of any town – was merely a single wooden cabin, lying on the side of the tracks, along with a couple of coal bunkers and water towers.

The townsfolk seemed to resemble their city, clad in similarly downtrodden headscarves and cowpony hats. Off in the distance, standing over at a table on his porch, a gentlecolt wearing a rather dusted, yet modern, suit, complete with top hat – most likely the richest pony in town – was watching the scene below with a bemused look on his face. A few dirty foals were also running about, playing hide-and-seek around and under the massive undercarriage of the dormant locomotive, dashing past the giant wheels and crawling under the thick hydraulic pipes.

It was this contrast that utterly fascinated Zvezda. On the one hoof, there was this absolutely amazing, eight-cylinder space-age super-engine that could reach hundred twenty miles per hour, chewed through coal like there was no tomorrow, and whose flowing lines radiated power even when utterly stationary.

On the other, it was parked in the middle of this completely unremarkable frontier town, which most likely didn't even have electricity, and whose combined income of all its inhabitants couldn't possibly exceed one months' wages for a single engineer back at the Cape. What little infrastructure the town *did* appear to have – namely, the half-buried coal

bunkers, and the array of four distinct water towers, two of which were currently servicing Ray's locomotive – seemed similarly out of place, and Zvezda guessed that they had been installed purely for the countless armies of supply trains that regularly serviced the Cosmodrome.

She decided study the locals with a bit more detail. Even though she couldn't read emotions anywhere near as well as machines, the way they looked at the massive engine (and her) seemed obvious enough; a mixture of resentment and disapproval. *What else would they think, after all? We're just spoiled brats to them.*

Despite their apparent hostility, Zvezda was at peace. Whatever that strange feeling she had previously felt during the train ride – and ever since leaving the Cosmodrome, come to think of it – had been, was even stronger here. It seemed to be radiating from the desert itself; digging her hoof through the sand, she wondered what strange processes – unconscious and otherwise – might have been at play in her mind here.

She adored the Cosmodrome; it was a lovely place, completely isolated from the rest of Equestria, and the tedious concerns of daily life. The food was free, the housing likewise, there were a lot of interesting ponies around, and the work was the most challenging she'd ever see. Time didn't seem to really exist there, either; were it not for the slowly growing rockets and launch pads, she would have sworn no longer than a week had passed since her initial arrival.

Why, then, did she seem to get happier the further away she withdrew?

"We done yet, partner?" yelled an orange earth pony from the side of the water pump, using the wide brim of his hat to shield his eyes from the desert sun. Behind him, five of the locals were steadfastly walking around in a circle, powering the great pumping machinery with their movements, "This water isn't gonna last forever!"

"Halfway there!" came the reply from the locomotive.

Zvezda had to fight back laughter as she saw the orange pony's hat nearly jump straight off his head:

"Halfway?" he yelled, apparently in shock, "Whaddaya mean, halfway?"

Peeking out of the side window, Ray looked down at the stallion:

"I mean that we need twice as much water to actually reach the next stop. And even that's running it a bit on the low side. Understand?"

"Oh, I understand a'right!" the orange pony yelled back, "Y'all are just trying to drain us o' every last drop this town has!"

"No, I don't think you understand," Ray chuckled, looking over his great engine again, "This locomotive is the single, most advanced piece of earthbound machinery in all of Equestria's history. It can produce up to eight hundred ponypowers of pure, sustained motive power. It can cross the entire Great Eastern in four days flat. And to do all that, it needs water, plenty of it. Now please, we're on company time here."

The orange pony – probably the town's sheriff, Zvezda realized, noticing the six-sided star on his hat – replied with a stern wave to his crews, who immediately stopped pumping.

"Lookie here, mister," he began, suddenly very serious as he approached the locomotive, "I don't care how much yer fancy trains need. My one, singular concern is-"

"Now hang on there, just a minute!" Ray interrupted, reaching out of the window to bang on the company logo painted on the cab's side, "We're a royally-chartered company, operating by the authority of the Princess of the Sun herself! As her subjects, you cannot simply-"

"In case you haven't noticed, we're in the middle of tha' desert 'round here!" the sheriff yelled back, "You can't just run giant massive rocket-trains through every three days and expect us to service every last one without dyin' of thirst!"

"Well, that's your job, isn't it?" Ray was equally furious as the sheriff now, "It's *your* responsibility to ensure the town has enough wells! Meanwhile, by direct authority of the Canterlot Act hundred twenty seven, transport of strategic supplies is to be guaranteed-"

"Well, we were here first! And we're not gonna just let you steal all our water!" the sheriff stood his ground, glancing all around, "Aren't we, folks?"

Suddenly, Zvezda became very, very aware of the other inhabitants of the town. Up to this point, they had just been standing still, idly listening to the ongoing argument. Now, they were all slowly beginning to approach,

forming a large semicircle around the massive locomotive. Considering her vulnerable position – still lying in the shade, right next to the giant wheels – she suddenly wished she had just stayed inside the cab, exactly as Ray had originally suggested upon their initial arrival.

“Now, now,” she rapidly spoke up, getting up and glancing around nervously, “Let's not do anything too hasty here, shall we?”

“Hasty?” the sheriff suddenly turned to her, fire in his eyes, “You're calling us hasty? And just how long do'ya think this all here has been goin' on for?”

Well, buck. *They're probably in the right here*, Zvezda realized, looking around for a means of escape, *Now, how the hay I'm gonna get out?*

“Listen, now,” she uncertainly began, watching as the semicircle of ponies rapidly closed around her, “I understand why you're angry. I really do. But do you really think that you'll improve your situation if you try resisting orders from Canterlot? Just how do you *think* the regional office's gonna react?”

“I might not be that good at them all fancy-schmancy politics, miss, but I do know one thing!” the sheriff was quick to respond, “Ponies without water don't go walkin' about for long!”

“But, come on, do you really think this will fix anything? I mean, you refuse water to us now, today, sure, but then what? This is a top-of-the-line prototype locomotive; don't you think *somepony* will notice it's gone missing?”

“Well, let them!” a random pony from the crowd blustered, “What can they's do to us?”

“I'll let you know, *Brandenburger Stahl* is one of the biggest industrial firms in all of Equestria!” Ray bellowed, peering out from his cab, “We'll take your entire town to court, and you'll wish you-”

“Them's mighty fine words coming from up there in your giant train, mister!” the sheriff turned back to Ray, “At least your lady friend here has the courage to say 'em to my face!”

This appeared to enrage the engineer. Immediately opening the cab's door, he jumped down to the ground and galloped straight up to the sheriff:

"Now, as I was saying," he began, pushing his own head against the sheriff's, "This train is under royal charter. Not supplying us consists of a breach of conduct, for which our lawyers will haul your entire, damn dusty town to the Royal Court itself!"

"And whoddaya think Celestia's gonna trust?" the sheriff boomed back, "A couple rich folks in them shiney trains, or a whole town of thirsty ponies?"

No longer in the middle of the argument, Zvezda had at least a little time to think; and the worst thing was, the more she did so, the more she couldn't help but agree with the townsfolk. They appeared to be genuinely in the right here, actively suffering, yet nopony was willing to listen to them. Taking a prototype locomotive and its crew hostage might have been their only chance.

Still, the conflict here seemed to be escalating exponentially, and for all the legitimate concerns of other ponies, she still preferred keeping her own skin more. Stepping back into the fray, she began:

"Everypony, please! I agree with your complaints! But tell me, what can we actually do about it? You can stop our train, but then more are going to come. What will you do with them?"

"Miss, this town's survived a whole invasion of mighty wild buffalo before," the sheriff turned back to her, "We ain't afraid of a few ruffled top hats!"

"Oh, you really think so?" Ray still remained furious, "Well, let me tell you, by the time our company's finished with your little dinky town, you'll be wishing-"

"Ray!" Zvezda cut the stallion off mid-sentence. He immediately gathered breath and was about to shout her down, but then stopped, as if reconsidering at the last moment. Though still chafed, he was willing to listen. For now.

“OK, everypony just calm down for a second,” she quickly began, turning to address the crowd, “You hear him? That engineer pony loyal to his company? He's not one of us.”

She almost flinched as she said these words, but managed to suppress the gesture; Ray, on the other hoof, got out an audible gasp.

“Huh?” the sheriff meanwhile exclaimed, “Then what is he? A zebra?”

This drew a laugh from the assembled crowds. Kicking herself for not picking her words more carefully, Zvezda tried again:

“I mean the Cosmodrome. He's not from the Cosmodrome,” she corrected herself, “But I am.”

“And just what darn difference does that make?”

“Sorry,” Zvezda smiled nervously, desperately scrambling to re-arrange the words in her head. Seeing all these eyes peering at her was making her thoughts fast and agitated, quite unlike her usual self. Panicked, even. The gradually lengthening silence, and the incredibly scratchy feeling in her throat – she'd ask for some water, but that would be highly inappropriate here – didn't exactly help either.

“What I mean is,” she eventually got out, “Your situation here, it's not like we're ignoring you on purpose. Look, I'm on the chief design council, working on capsule design, and I never even *heard* of this. And I can guarantee, neither has the Director. But now I have, and I'm willing to listen. Can't we just work something out?”

It was a gamble. And a lie. A pretty big one, too. In fact, she regretted it as soon as she had said it. *I'm obviously not a designer. I don't even look like one! My mane looks way too terrible. You just ruined it for yourself, Zvez.*

As these thoughts ran through her head, however, the sheriff deliberated in silence. After a while, he gestured over to the engine, still lying dormant on the tracks:

“What we do 'bout that thing, then?”

“No pony touches it!” Ray flared up from the side. The sheriff froze for a second, but then shook his head:

“Not y'all, and not us,” he nodded, “Deal.”

“Fine! Great. Now all I need is some pen and paper,” Zvezda smiled cautiously, not quite believing the entire gambit had worked. Maybe she didn't look that bad after all? “Celestia will hear of this herself, you have my word.”

The sheriff slowly nodded, and the tension dropped like a rock. Breathing out in relief, Zvezda smiled as she watched the ponies slowly retreat. Of course, that smile immediately disappeared as she glanced at Ray, standing at the side of his locomotive and silently brooding.

She felt a pang of regret for herself too. He had been so friendly all this time; why did she have to go and treat him in this way? And all just for a stupid locomotive? *There must have been another way, you silly filly. Now look what you've done. Lies upon lies.*

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Slowly, Wilhelmina continued marching through the cold, deserted corridors of Stable II. Ever since the accident, not one pony had ventured here; too ashamed, probably, and she could see why. At each step, framed paintings hanging from the walls taunted her. They seemed to stretch out for infinity, a gallery of empty wishes and broken dreams.

Stopping in her stride, she studied one; at its centre stood a single pony, clad in a massive bronze suit and standing on the summit of some alien peak. With the faint blue marble of their home planet reassuringly reflecting in her visor, she sifted through the soft soil of the lunar regolith. Behind her loomed the spider-like landing assembly of her space cruiser, a giant array of actuators and piping.

Will smiled as she studied the delicately-painted machinery of the rocketship and the space suit, then contrasted it with the comparatively simple lines that defined the face of the moon-walking pony. Sunny might have been a great artist, but she did sometimes get too carried away by the technical side of things.

On either side, more of such pictures hung; Will walked quietly past the rows of rocket engine sketches, photographs of their early practicals, and fiery paintings of re-entering space capsules, eventually arriving at a small diorama set into the wall.

It was one of their earlier attempts, and still a bit crude, yet – especially considering all five of them were engineers, with not a shred of actual artistic education – still quite good. It was a cutaway of a massive moon laboratory, half-buried into the lunar rock. Tiny plastic ponies, all wearing futuristic silvery fabrics, scurried through its many corridors, managing experiments or repairing equipment. Several were having moon-pies in the kitchen. A ring of giant mercury boilers at the top of the facility converted the sun's rays into usable energy, providing them with power, for heat and light; meanwhile, every room was awash with greenery, clay pots hanging off the ceiling and occupying every otherwise-wasted space, together providing enough oxygen for all twelve of the brave pioneers.

Leaning closer in, she examined one of them; a chocolate-coloured earth stallion with a confident smile on his face as he stepped over the threshold of the command deck. No pony had ever picked up on it, but the little plastic figurine was suspiciously similar to this one stallion that used to attend the campus gym every Thursday... not that Wilhelmina had ever even asked his name, of course. Idly, she wondered what had become of him. What did he study, anyway?

Off to the facility's side, a giant metallic bird loomed, ready to take its crew back at a moment's notice, should things ever go wrong. Not that they would, of course; but it always paid to be well-prepared. The Equestrian Space Agency would tolerate no safety hazards.

Sighing deeply, she looked around the long corridor again. All in all, about twenty years of hopeful dreams were stashed here. Their entire adult lives, from the early days of their secret meetings, until today. Or three days ago, to be precise.

So close. And yet so far.

The sight of Redstone standing at the far end of the corridor tore her from her thoughts.

“Will?” he quietly spoke up, “Sorry to interrupt, but... it is time.”

Nodding, she trotted up to him, then emerged through the Stable's blastdoor. The rest of the Chief Designers were already gathered there, bearing saddlebags loaded down with technical diagrams and sheets of calculations.

The carriage was there too, forebodingly standing empty in the moonlit desert. A group of four royal guards towered besides it, ready to haul the designers back to Canterlot and before the investigative committee, for their final showdown. This was it.

She turned to the Professor:

“Have you finished the analysis, then?”

Redstone looked to the ground, smiling sadly, “Premature ignition of third engine, coupled with structural failure of bind-points. You were right, after all; we shouldn't have gone with steel.”

Lyuka was next in line. “What about that special assignment I gave you? Is it-”

The pegasus saluted, a wide grin on her face: “Six sealed envelopes, all slid under the equenauts' doorsteps. They'll find them in the morning.”

“Final bids for pressure chamber production also dispatched to our prime contractors, direct dragon-fire,” Sunny didn't even await being prompted by Will.

And at last, but not least, there was Sequine, confirming her task with a simple nod. Wilhelmina smiled. Like the others, she had also sent many letters of her own today, many of which would also be arriving soon.

Determined, she took the lead of the group, walking up to the waiting carriage and jumping aboard. The future of the Space Programme looked grim; the lawsuits were steadily beginning to stream in, every tabloid in the land was having a field day, and their opposition in the Assembly was undoubtedly mounting even now.

But, if her father's political career had taught her anything, it was to make backup strategies, plans for all contingencies, and never show all of her cards. Ever since the initial establishment of the Cosmodrome, key alliances were continuously being forged, vital points seized, networks of

communication established. Always in the background, never quite obvious. But still there.

And this night, the wheels had finally been set in motion. All over Equestria, Wilhelmina's immense defensive machine would slowly begin to awaken, ready to fight back at whatever their opposition would have in store.

“Madam director! Wait up!”

With a quick gesture, Will ordered the royal guards to wait a few seconds longer, then looked over the side of the carriage; one of Redstone's aides was galloping out of Stable I, carrying a letter in his mouth.

“Urgent flare from the *Brandenburger* head office,” he reported, tossing the message over, “Seems like there's a situation developing.”

Wilhelmina looked the letter over – it was still warm, having just arrived over dragon-fire – then sighed. A 'situation'. Judging by the lack of further details, it must have been more bad news; the last thing they needed.

“Thank you, worker,” she nevertheless smiled back, “I'll read it on the way.”

And just like that, they were off. The quartet of royal guards sped up, and in a few seconds the carriage was afloat and turning towards Canterlot. She glanced at the bunkers of the Cosmodrome disappear into the distance – quite possibly for the one last time – then turned to face the sky.

It would be a tough fight ahead; their enemies were many, and they were prominent, with far more power than her allies could ever hope to manage. But her entire life had been leading up to this moment.

And she wasn't just going to waste it.

# Chapter 12

## For Tomorrow, or Today?

„Bless us, O great Celestia, and these, Thy gifts, which we are about to receive from Thy bounty...”

Zvezda tried to stop herself from fidgeting about and hopping from leg to leg as she surveyed the sparsely-populated dinner table laid out before her. The stew wasn't exactly a rare speciality, but it was honest food, and today she felt hungrier than ever. Which made the ponies' prayer even more annoying.

„We thank Thee for Thy sunlight, by which our humble crops are allowed to grow. We thank Thee for its warm embrace, by which our herd is allowed to prosper...”

And they seemed to be going for the full-length version today, too. *Okay, okay, I get it! It's Sunday! No need to rub our noses in it.*

Still silent, she glanced at the ponies assembled around the rough wooden table; the leader of the small family, a rugged earth mare in her forties, sand-coloured and with short orange hair, stood at the far end, leading the prayer. To one side stood the husband – a stately fellow, slightly younger, wearing a light vest and sporting a bushy ginger moustache – and to other, their only child, a perpetually-smiling filly of about eight, with adorable sandy braids. It had certainly been awfully kind of them to take her in, Zvezda never denied that; as soon as the confrontation had officially ended and the water had been pumped back out of the locomotive, they came up to her, offering to share their food and shelter, for free no less. And they were friendly, too, not judging her for the mistakes of her superiors, and instead treating her as an equal.

Even so, she wished they could have been just a *tad* more progressive.

„We thank Thee for Thy guiding vision, which eternally guides our pony race. We thank Thee for its endless foresight, which has united our different ways...”



*Ugh.* Zvezda remembered her own family back in Sankt-Luneburg, and how they would also go through the entire lengthy saying of Grace every single day; telling her to either follow along, or not get any food. She wasn't quite sure when this entire silly ritual began getting on her nerves, but knew she definitely was glad it disappeared when she finally left for her apprenticeship.

The head of the family, still going through the words of the prayer, eyed Zvezda intently. Looking down at the ground, suddenly feeling rather ashamed for not joining in despite their sheer generosity, she gained newfound respect for them; unlike her own parents, they were understanding that some ponies might object to such rituals.

Blushing, Zvezda even considered to join them anyway, just out of thanks, at least for the final few words; then stopped herself intently. No modern, responsible pony should partake in such unlimited glorification of the state. The Princess certainly provided all their light and warmth, true enough, and Zvezda was thankful enough for it. *But going as far as saying it outright, over every single meal? That just says Celestia is faultless.*

*And from there? Just a small jump to thinking the State can do no wrong; after all, it's under her direct leadership! And that, that can lead to all sorts of trouble...*

„...and lastly, we thank Thee for Thy gift of friendship. Amen.“

The other ponies also all said their amen – even Zvezda instinctively mumbled it before she had a chance to stop herself – then, grinning, heartily delved into their plates. The next few minutes were filled with pleasant chomping noises, but soon enough, the discussion livened up again:

„So, anyway,“ Amber broke the initial silence, looking around the table at her husband, „Did y'all hear ol' Shale is at it again with his fancy tricks?“

„Well, this town could sure use some extra bits, that goes without sayin',“ he laughed in response, trying to fish a suspicious-looking vegetable out of his stew, „Still, I'm not sure he's gonna get anywhere the *fourth* time 'round. Not without seriously reconsiderin' the whole thing.“

„Well, ya never know,“ Amber declared, shrugging, then swooped her head to look at her child, „And what did you do all mornin', sweetie? Anything fun?“

„Zvezzie told me long division today!“ she announced proudly, beaming at her parents, „All the way to the millions! Did you know that two million and twenty five, divided by five hundred and five, is exactly three thousand-“

Amber let her slowly finish, then, whistling in respect, looked at Zvezda. „I must admit, I was sceptical at first, but I really gotta hand it to you. You sure 're helpful.“

„It's nothing, really,“ Zvezda smiled, looking at the little filly with the same accomplished look she usually reserved only for her best welds, „She's quite smart herself! I'm only prodding her towards the right track.“

„Oh, oh!“ the little filly resumed, „She also told me the names of the planets! Listen, listen!“

„Well, still, it's awful nice of you,“ Amber retorted, running her hoof through her child's mane as she mumbled down the list, „I wish we could give 'er more time, but with the quotas goin' up and everything, the both of us are busy enough as is. It's a shame, but you gotta pay the bills.“

„Up?“ Zvezda raised her eyebrow, still remembering all complaints that had ensued the last time the production quotas had raised, „Again?“

Amber shrugged, „Who are we to question the Princess' plan? She'll put all that iron to good use, mark my words!“

„Still, I'd sure be nice if they gave us at least a little more time with our *little* princess here,“ her husband sighed, looking at his daughter sadly, „Or at least built us a school.“

Those last words touched Zvezda's heart. She looked at the little, smiling filly again, and thought of herself; where would *she* be, if her parents hadn't ensured her such a good education? Had she grown up in a tiny frontier town with no facilities whatsoever? For all she knew, this filly here could be the singular genius supposed to bring forth the third industrial

revolution; and nopony would ever even hear of her, simply because she hadn't been given the chance.

Add the heavy bag of coins stashed in her own saddlebags, lying not five hooves from here, and Zvezda couldn't help but feel distinctly guilty.

Judging by their sad looks, the parents seemed to share her views. Still, they were at least a little more stoic about it:

„Well, the ol' sheriff sent in another request to the committee last week,“ Amber announced, still distantly looking at her child, „We'll see how the good Princess decides.“

Zvezda rolled her eyes. The system worked, she knew it did; but all too often, even simple procedures got bogged down in paperwork, and the original well-meaning objectives got lost amidst the checkboxes. Appleloosa would no doubt get a school... eventually. What were a few years to an immortal goddess, after all?

Whether it would be in time to help this particular filly, however, was a different question altogether. Zvezda glanced at her one more time, then, looking back to her loving parents, sighed deeply. What was there to do?

*You know very well.*

She blinked, mind reeling from the surprise strike by her conscience. But the more she considered it, the more convinced she became. They had taken enough from these ponies. It was time to give something back.

„You know,“ she slowly began, still quite coy, but steadfastly urged on by her conscience, „The Cosmodrome's only half a day away, even by cargo train. Once all this water business gets sorted out, I'm sure we could arrange-“

Amber stared between her and the filly for a few confused seconds, then, with Zvezda's words clicking together in her head, straightened up:

„Now listen here, miss, I know you mean well,“ she began, hugging her foal protectively, „But I'm *not* lettin' you take her away to that strange place

of yours, understand? No matter how much she might learn. Too many strange folks wandering about in there.“

Zvezda responded with some more confusion of her own, before realizing where the misunderstanding could be coming from:

„What? No, sorry, I didn't mean it like that! I meant the *other* way 'round. Right now, our schedule's pretty full, but there's almost four hundred of us employed there. And most of them are really helpful ponies, too. I'm sure we could find at least one pony to come visit you with a few books and prepared exercises, at least on the weekends.“

The family said nothing. Glancing back and forth between their sceptical eyes, Zvezda pleaded, „Please? At least give it a try? It's the least we can do.“

„How much it'd cost, though?“ Amber shot back, „You know very well just how little we can afford to spare.“

„Come on, Amb,“ her husband whispered into her ear, „It's fer Ruby's sake. I'm sure we could take a loan out or somethin'.“

Amber drew breath to respond, but then reconsidered, instead turning her eyes to Zvezda in a mix of worry and hope. The next word to come out of her mouth could very well decide the family's entire future from here on now. Wielding such power was a strange feeling, one Zvezda wasn't entirely comfortable with.

„Free,“ she finally beamed at them, shattering the uneasy silence.

„Free?“ the mare stared, highly suspicious, „What's the catch, then? Y'all own my daughter fer the rest of time? Brainwash 'er to worship your company? No deal.“

There was an awkward pause as Zvezda's brain processed the words; once, twice, thrice, not quite believing what she had just heard.

„What, no! Nothing like that!“ she eventually got out, once again taken aback by the sheer level of the misunderstanding happening here, „Just

where are you getting all this from? I'm not in this for the money! I'm just trying to help!"

Amber scoffed, „Sure you are. Look, I don't mean t'be disrespectful or anythin', but you company types are all the same. Come bringin' gifts, and while we're saying thanks, you steal all our hard-earned stuff!"

„Yeah!" her husband added, „Just take tha' train station! 'Multiplier effect', they said! 'Pos'tive feedback', they said! And how did all that work out, eh?"

„But- But-" Zvezda stuttered, completely shocked by the reception she was getting here, „I'm just trying to-"

„Thanks, miss, but no thanks," Amber finished off, smiling sadly, „We'd got burned by y'all before. Listen here: If this were about anypony else but my little princess, I might consider giving you a second chance. But I'm not risking my little Ruby."

Zvezda listened perfectly still, in utter silence. She was trying very hard not to take all of this personally. Here she was, offering a great education for their only child, a chance at a new life beyond the simple sustenance here, and all they were sending back were insults and baseless accusations. But, for the sake of the little filly, she couldn't get insulted and leave in a huff. She simply couldn't.

In the intervening silence, the mother seemed to have come to a new few realizations of her own. Easing her defensive pose, she smiled at Zvezda:

„Look, listen here, I'm sorry. I kind of got worked up there a bit. Don't get me wrong, I'm awful thankful of all that the stuff you've taught our daughter. You're doing wonders for her, I know that. It's just, having her spend all that time with all those other ponies from your *company*... again, sorry. But it's not your fault, let me tell you that."

The kind words eased Zvezda, even made her smile back. Still, she did not say a word. What ensued was another all-too-uncomfortable silence.

„Thanks,“ she eventually got out, „Err... I apologize if I'll sound off now, but could I spend some time alone? Sorry, I know it's weird, but I just can't think properly unless-“

„Ah, it's quite alright,“ the motherly mare smiled at her, „You've seen the yard, right? When the trains ain't screaming past, it's actually pretty nice in there.“

With a flash of a smile and a quick nod of thanks, Zvezda promptly retreated from the room.

The yard outside was very nice indeed, exactly as Amber had said. It wasn't exactly enormous, but it was fairly big, and, perhaps most importantly, it was all grass; with a few apple trees thrown in for good measure. Since it was Sunday noon, there wasn't another living soul outside, and there were no distracting artificial sounds piercing her brain. It was just her, with the hustling grass and leaves.

Lying down under one of the trees, she closed her eyes and spent the next few minutes in serene meditation, letting the soothing wind gently roll through her mane and slowly wash her anger and worries away.

She had figured it out now; the strange feeling in her hooves, the one she had felt ever since leaving the Cosmodrome. It was even stronger here, that subdued warmth that somehow kept her cool in the boiling desert sun. For, despite all her technical talents and knowledge of rocket assembly, Zvezda was still an earth pony, with everything that entailed. She had a powerful connection to the land, and with her eyes closed now, could feel the trees around her as they grew, their long winding roots advancing through the earth under her, the leaves as they fluttered in the wind. She guessed the others felt these things too, and all the time; so often, in fact, that they could just delegate them to a simple subconscious hum. But for Zvezda, who had been cut off for so long, it was like lying in a warm bath, soft and relaxing. Even now, she could feel something tingling in her throat, as if the ground was reaching out in response and healing *her*, too.

She wondered again about the Cosmodrome. There was something strange about that place, something deeply wrong with it; after all, there were hundreds of earth ponies stationed there, some for several years

now, spending all their waking hours in the sand. The Commissar's crews, too, were predominantly *earth* stallions – scouring her memory, Zvezda could remember just the one hat-wearing unicorn in all her time there – and behaved like they been stationed in those bunkers for whole centuries.

Why, then, was the place still an arid desert?

The trees around her idly murmured back, slowly draining the troubling thoughts from her head. A large insect buzzed past, emitting a noise that was usually so infuriating to drive her up a wall in rage; but Zvezda could hardly hear it now, too at ease with the world to care.

Suddenly, for some indeterminable reason, she opened her eyes, and it all broke away. The cause of that was the sight of a lone earth pony, walking along the railway tracks not a hundred yards away, staring silently at the ground. It was Ray, of course; sporting his once-white conductor's cap, and a bruise under one of his eyes. Zvezda had no idea what he had been doing past these few days, but looking at him now, she could see he looked all too much alone. Waves of regret rolled through her heart; *Why did I have to insult him like that? You're a stupid girl, you know. Whatever happens next, you deserve it.*

„Uhm, miss Zvezda?“

Despite its sweetness, the sudden voice startled her at first. Completely by instinct, she jumped back on her hooves, then spun around and assumed a defensive posture; it was only upon realizing it was just Ruby that she finally relaxed. She turned around again, but Ray was already gone; probably having disappeared behind one of the large coal bunkers stationed along the railway. Sighing, she turned back to the little filly; who seemed quite aware she had done something, but not sure what to do about it, and was looking at her sheepishly.

„What is it, sweetie?“ she beamed at her.

„Oh, nothing...“ the little filly began, then, intently looking at an apple tree to Zvezda's side, continued, „Do you know what's going to happen? Like, afterwards?“

*Poor little thing. So much to face, so young.*

„Don't you worry your little head about it,“ Zvezda patted her on the head, putting on a warm smile, „Just keep studying hard and learning all your maths, and I promise you, everything's going to work out just fine.“

Ruby scoffed at such a response: „I don't mean us! Mum and dad complain, but we always get by. And the good Princess always provides. I mean *you*.“

Zvezda smiled, now as much for herself as for the little filly. Whatever response she had been predicting, it wasn't this. „Us? Whatever you mean, sweetie?“

„You rocket-ponies!“ the filly clarified, quite obviously frustrated with Zvezda's reluctance, „What's going to happen to all of you?“

„We'll... we'll keep flying rockets,“ Zvezda replied, now with much less certainty than before, „What else do you think?“

„I heard the sheriff talkin' down at the Salt Block, you know. About how 'There's no way in hay the Program's getting through the Assembly.' Is that true? Is it?“

If nothing else, Zvezda was impressed. She herself hadn't even known about the Assembly, much less cared about what it did, before adulthood. Then again, she always has had a rather haphazard view of politics.

„Is is true?“ the filly insisted, „'Cause I'll cry if it is.“

„Don't worry, sweetie,“ Zvezda tried to cheer her up again, „We've had a little accident, but we'll get through it.“

The filly's eyes began to water. She tried again, this time smiling encouragingly:

„Ponies are gonna fly in space, you can trust me on that.“

„You grown-ups always talk like that when you're lying!“

*Buck! Why are the little ones always so smart?*



„Oh, come on, now!“ Zvezda almost pleaded to her, „Don't start crying now! Look, the Director herself is in Canterlot right now, talking to the ponies there about the Program's future, you hear me? She can't fail.“

„But- but- what if she does?“ the little filly sobbed, „What if it all gets taken away, just because of one silly-“

„Listen to me now, alright?“ Zvezda uncompromisingly grabbed her shoulder, refusing to let go, „Are you listening? You sure? Good. Because let me tell you, the Director's the biggest genius I've ever seen. She's the one behind it all – behind *this* all. Starting from nothing but thin air, she managed to take her dreams and make them into real metal and plate, using nothing but her wits and knowledge of science. What are a few politicians compared to that, eh? Eh?“

Although those words were at least as much for Zvezda herself as they were for the little filly, they seemed to put an end to the sobbing, at least a temporary one. Scrambling to find a more permanent solution, she suddenly remembered something:

„Remember that book I had in my saddlebags? The one I wouldn't let you read, because it was too hard?“

The filly, her tears now quickly drying up in the desert sun, nodded eagerly.

„Right. I want you to fetch me that book. We're gonna read it together.“

With a jubilant cheer, she rocketed back into the house, hopping all the way; almost as if that had been the whole plan all along. Smiling to herself, Zvezda looked back out towards the distant, flat horizon. She was fairly sure the Director knew what she was doing.

Fairly.

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„Why were the spectator stands located so close to the rocket? Your own technical documentation, page seven, indicates they were inside the outer blast radius...“

„...regarding the Appleloosa situation; had nopony bothered to even *run the numbers* on that supply route? I struggle to think of another way that could ever have been authorized.“

„If the esteemed representatives will all turn to page eleven of my report, you will see that the Cape Coltaverall facility consumes fifty tonnes of quinone derivatives per month. That number represents almost fifty percent of Equestria's entire industrial output of that particular chemical; a substance which is sorely needed in microbial medication, and is causing the cost of its production to sky-rocket.“

They were all good points. Devastatingly good points.

Seriously. The one time you want your leaders to be laughably incompetent, drowning in piles paperwork, unable to decide; and they aren't.

Lyuka gulped as she glanced sideways at her friends. The table at which they were all standing was located in the middle of the grand closed amphitheatre that composed the central hearing hall, surrounded from all sides by the esteemed representatives, all of whom seemed to be eyeing them threateningly. Wilhelmina just stood there, next to her, eyes closed as she listened to the constant stream of litanies being hurled at her from the rows above. Sunny, Redstone, and Sequine, making up the rest of their little group, meanwhile all fidgeted around in varying degrees of discomfort, glancing at the finely decorated ceilings, the marble floors, their technical files, each other, all in vain attempts to gain at least some scant reassurance; and Lyuka suddenly realized she was doing the exact same thing.

And why wouldn't she be, after all? Their situation was beyond terrible. The smooth white marble and golden engravings of the enormous hearing hall might have been beautiful while empty, but right now, full of rows upon rows of Equestria's ruling elite, they looked impossibly ancient and imposing. The delicate mosaics set into the windows, at other times merely reminders of ages long gone by, today seemed to be staring deep into their souls, judging them. Lyuka glanced upwards at one, only to immediately lower her head again as she met the ancient gaze of Starswirl the Bearded. *You dare call yourself a scholar?* his eyes seemed to scream at her, *You make a mockery of my tradition!*

All this, and that wasn't even counting the Princess. Lyuka did not even dare turn her head anywhere near the direction of the golden throne upon which Celestia rested, illuminating the room with a subtle white glow; she feared righteous anger would strike her down otherwise. The Princess had not said a single word for the entire duration of the hearing, and yet her presence seemed to underline everything that went on.

She looked back to Wilhelmina, almost pleadingly. *Come on, you said you knew how to get out of this. That you had everything prepared. That nothing could go wrong. Please? Please, Will, tell me you weren't lying.*

Finally taking a deep breath, the small mare suddenly shook her curling blue mane, then began:

„I... I...“ she stuttered, „I concede that mistakes were made. That things might have been managed better.“

Well, buck.

„However,“ she continued, slowly picking up in volume and confidence, „I ask the assembled representatives; does that not apply to every single undertaking in our long and varied history? Was this very castle built on-budget, or on-time for that matter? Did the first weather factory not suffer a catastrophic failure just five hours into its operation? Has-“

„Director, I am afraid you are missing the point here,“ the familiar voice of the Duchess of Hackney spoke up, cutting Wilhelmina off, „Yes, mistakes were made for every single of the examples you mentioned. However, would you care to wager a guess at what happened to the administrators of those projects? They were punished, plain and simple. Their plans were confiscated and re-examined, the construction crews dismissed, the work suspended for many years. And they themselves were hauled into this very hall, to face an investigative hearing. Just like you, now.“

„Of course, your ladyship, I am not trying to wriggle out of my responsibilities as the Director of this program,“ Wilhelmina quickly recovered, though sweat was obviously appearing on her forehead, „But I ask you to consider this: If the greatest architects in our history could not

manage to construct a simple – though magnificent – castle without accident, what chance do the five of us stand of accomplishing an even greater task? You may choose to 'punish us, plain and simple'; perhaps even dismiss us outright. But then what will happen to the Programme? For Canterlot, there were always more architects to be found. There are no more rocket engineers in all of Equestria.“

No! Lyuka almost wanted to scream, You're saying all the exact wrong things! Stop giving them more stuff to shoot you with!

„And who says we *want* this Programme to continue?“ the Duchess immediately fired back, confirming Lyuka's fears, „Considering all the points my fellow representatives have raised thus far, would it not be better for Equestria if it simply were to be disbanded outright, and the freed budget re-purposed for more deserving goals?“

Boom. That's the big one, right there. Even the ponies assembled above began to murmur amongst themselves as the dreaded word was spoken, especially in the back rows. Meanwhile, Lyuka exchanged glances with her friends; they all seemed equally terrified.

Except Sequine, of course. The white unicorn was just standing there, minding her own business, apparently not perceiving a thing from the outside world. Lyuka would do anything to be as blasé as her right now.

The buzz coming from the back benches picked up enough volume to startle even the Speaker – a mysterious shrouded mare, staring at them from her honourable position directly next to Celestia's marble throne – who banged her gavel several times in an effort to silence them:

„Order! Order! Duchess, are you putting forth an official motion, or just posing a rhetorical question?“

„The former, your ladyship,“ the mare responded with a curt bow, and the back benches almost exploded. The Speaker repeated her previous procedure of hitting the gavel against the table, except now doing it with far more force, and for far longer. She kept at it until everypony had fallen completely silent, and for some more time after that. Only once the ears of all present had been thoroughly abused, she finally stopped, then announced:

„The motion has been put forward to fully cancel the national Space Programme, removing all its funding. Do I hear a second?“

For a brief moment, the hall was filled with a dead silence. Once again, Lyuka glimpsed at the white figure with the corner of her eye, and wondered just why the Princess had decided to attend, if she wasn't going to do anything. Did she get her thrills from watching their life's work be destroyed by a few haughty nobles, or what?

„Second!“ another earth pony – Lyuka had no idea who she was, but judging by her attire and row of commemorations, probably a very high ranking noble – suddenly exclaimed from the left side of the hall.

„Objection!“ Wilhelmina yelled out almost immediately, „With all due respect, countess, you are the very last pony in this room to be complaining about mismanagement! Wasn't it only a few months ago that the news broke of a town in your constituency possessing a major road that terminated off a cliff? Or a water dam, which broke after only two weeks of-“

„Appeal denied,“ the Speaker firmly announced.

„But-“

Another hit of the gavel. „Appeal denied, Director,“ the shrouded figure gave Wilhelmina a stern look, „The motion is seconded. Are there any further objections, or can we now proceed to voting?“

„With the utmost respect for your ladyship, I'd like to raise a point of order.“

Lyuka's eyes widened as she processed the new information. A pony that wasn't against them? In this Assembly? Her eyes darted to the direction of the sound; it appeared to come from a fiery red pegasus with a short and jet-black mane, standing on one of the upper benches, far in the back. She had seen him somewhere before, but couldn't quite place it.

„Mister Skies, you may continue.“

Hang on. Skies? 'Cherry Skies' Skies? 'Skies Precision AG' Skies?

„Much appreciated,“ the pegasus bowed in the direction of the Speaker, then turned to face the designers below, „If it please the esteemed representatives, I would like to draw your attention to the fact that it is now almost lunchtime. Now, I am quite sure everypony remembers the recent finding by the Royal Academy that courts are far more likely to pass harsher sentences at this particular hour; not due to anypony's personal failing, of course, but simply from basic biological reasons. In the interests of a fair process, therefore, I hereby propose the Assembly takes a recess, and delays its decision until it is well fed.“

„Hear, hear!“ exclaimed a rather old and fat pony on the other side of the hall, speaking in a heavy accent through a thick moustache, „As the appointed representative of my stomach, I hereby second this motion!“

The back-benches erupted with waves of laughter and cheers. Even the front rows weren't completely immune, with a few otherwise stoic ponies nodding enthusiastically in agreement. Of course, the Duchess was furious:

„I challenge this proposal on the grounds of frivolity! The count is making a mockery of our great-“

Another bang of the gavel. „Appeal denied.“

„Well, in that case,“ she huffed, „I raise a second objection! The count is the owner of a large industrial concern, undoubtedly a vital contractor for the Cosmodrome; a clear-cut case of a conflict of interest! As he therefore cannot be trusted to act in the best interests of our nation, I hereby move he be removed from all ensuing discussion, and all his contributions struck from the record!“

„If your ladyship will check those records,“ the count responded with a wide smile, „I have not contributed anything to the discussion, precisely *because* of this very reason. My suggestion was merely a point of procedure, not a legalistic argument.“

Lyuka's heart sunk as she heard the stallion finish his claim. *Our only supporter, and he can't speak. Just great.*

„Noted,“ the Speaker curtly snapped, then fell silent, deliberating the matter.

Just as she was raising her gavel to give a statement, another voice sliced through the air. This one, like a hot blade through butter:

„I am sure I speak for all of us, Duchess,“ Celestia's warm voice resonated through the giant hall of the Assembly, soothing nerves and calming minds, „That we could all use a good, full meal right about now. Seeing as the motion has been seconded, I see no reason why we cannot adjourn for the time being.“

The duchess was fuming. However, confronted by the Princess herself, she stayed perfectly silent.

„Or is your argument really so weak that it could be affected by a single meal?“

Lyuka fought hard to avoid bursting into tears of laughter as Celestia's sentence finished. *Sometimes, just sometimes, you're all right, Princess!*

„Fine,“ the duchess eventually uttered, and the Speaker banged her gavel thrice, signalling the end of the meeting. The tension, having hung over the entire room for so long, vanished without a trace as the sound of shuffling hooves and tired murmurs filled the room. Some of the representatives were leaving the hall so fast, they almost resembled school fillies rocketing out of the classroom after the bell had rang; Lyuka wondered why those ponies were Assembly members at all, then.

Wilhelmina breathed out readily, and all the chief designers turned around, finally free to talk to each other:

„Wow,“ Redstone shook his head, „Just... wow.“

„Y'know, I was expectin' something intense, but this was absolutely insane,“ Sunny uttered, flexing her hooves, „I never want to go through anything like that again.“

„Politics,“ Sequine simply stated, summarizing the situation in one word.

„Keep it up, everypony,“ Wilhelmina tried to cheer them on, „I know it's tough, and it feels like there's no hope, but we've got to carry on. After so much, we can't just give up! Remember the dream.“

The others sadly nodded, and Lyuka joined in too. The Dream. That's what has been keeping them going for so many years.

Seriously, how long has it been now? Fifteen years? Twenty? And it was all at stake, right here, right now.

As the Designers, still quite shell-shocked, slowly gathered up their files and began following the example of the politicians – the vast majority of which had already since left the room – Wilhelmina loudly sighed:

„That being said, I do wish the good Princess was slightly more straightforward with us,“ she noted, turning her head up to the elaborately painted ceiling, which depicted the founding of the Midnight Castle in all its colourful glory. The ceilings in Canterlot did tend to be quite heavily decorated, Lyuka had noticed; probably because most of its inhabitants spent their days with their heads pointed up there, „If she wanted us gone, she could just issue a royal degree. Same if she really wanted us to stay. Instead, she just throws us out to the wolves, then makes a sarcastic remark about food. Honestly.“

„Maybe this is her way of having fun,“ Lyuka suggested, „Throwing ponies into horrible situations, then seeing what happens.“

„You watch your mouth!“ Sunny snapped back almost instantly, then dropped her voice to a near whisper, „You don't know how good her hearing is.“

As they filed out through the massive golden doors of the hall, Sequine – of all ponies – picked up on the discussion:

„Is funny,“ she announced, coming to a stop in the middle of the doorway.

„What is?“ Lyuka poked her, trying to get her to budge, „Or are you just lost in your dream world again?“

The unicorn gave her a stern look, then continued. „She was making support speeches, you almost worshipped her. She does one thing, insults start.“

„Well, duh! She was actually being useful back then. Now, she's just letting the Assembly decide everything,“ Lyuka grumbled, angrily staring down the red carpet that lined the hallway, „My entire life's on the line, and she lets *those* clowns decide?“

„Well, to be fair to good Princess, it is fairly divisive issue,“ Redstone chimed in, causing Lyuka to roll her eyes. Of course the professor was taking Sequine's side. It was the same when she was a student in his class back at grad school, and it was the same now. *Honestly, even without the age difference, it'd still be creepy.* Meanwhile, unaware of her private thoughts, the stallion continued with his extrapolation:

„Public opinion is flying all over everywhere. Tabloids screaming completely opposite views on each other. That stupid scandal with Scud. If Princess makes decision by herself, or even uses her veto powers, it could make her look quite bad. Much safer to let Assembly decide.“

„She's a billion years old immortal goddess of the sun,“ Sunny refuted, „She doesn't need to care 'bout her political career.“

„True enough. However, despite her sheer powers, only way she rules is by consent,“ the old professor postulated further, „Unless she wishes to use force against her own subjects, she must be far more limited in decision-making than we would believe.“

„As if anypony'd ever complain,“ Lyuka scoffed, „As long as the unwashed masses get their bread and their friendship, they won't care about a thing in the world.“

„That's a bit harsh, isn't it?“ Wilhelmina spoke up, exactly as Lyuka had known she would. Such choice of language always triggered a superior tirade from her, and today would be no exception. „This kind of attitude about the anonymous 'masses' is exactly what we've been trying to avoid all this time. They are ponies just like us; the fact they might work on a farm

or clean the sewers does not make them any inferior to us, rocket-designers.“

„Hrmf. As if.“

„Tell me Lyuka; did you yourself care about politics at all, until they started affecting you personally?“

Well, no! Why should I? But these ponies are different. They won't care even if it does affect them!

Looking at Wilhelmina's serious face, however, she decided she wasn't going to continue along this track any further. Instead, she changed the topic completely:

„All this politics stuff is very interesting, but it doesn't change the real question here: What the hay do we do now? Skies bought us some time, but now we've got to figure out how to use it.“

Wilhelmina's expression turned sour, and, stopping in her stride, she looked up to the ceiling. What followed was a very uncertain silence as Lyuka, along with the others, waited for her to answer.

„You *do* have a plan, right?“

She could hear her heart beating.

A tear dropped from Will's face. It was soon followed by one more, then another, which soon became a torrent as she broke down right there, in the lobby of the Assembly.

Lyuka had never seen her friend cry before. Even in their darkest hours, when their problems looked insurmountable, the dear mare always took whatever came at her unflinchingly, seemingly without a worry in the world, always aware of the reward lurking just over the horizon. She kept going and never stopped, no matter the challenge.

And yet, here she was; and Lyuka had no idea of what to do.

„Come on, Will,“ she eventually whispered, offering up a hug, which the unicorn quickly accepted, „It's gonna be alright. We'll get through this, one way or another.“

„Yeah,“ Sunny quickly offered up, „It's not like we don't have any allies 'round here. We'll be fine.“

„Not if-“ Will began, then briefly choked on her tears before continuing again, „Not if I keep messing up like this.“

„Come on, it's not your fault,“ Lyuka patted her on the back, „We're all stressed around here.“

„I- I had it all planned out,“ the mare got out between sobs, „I'd march up there, give them a face full of logi- logical arguments, and they'd have no choice but to ac-accept. But instead-“

Another unbroken flood of tears, lasting even longer this time. After she was all cried out, she looked at her friends. Even Lyuka's previous anger towards her had completely vanished by now, replaced by genuine concern.

„I am so sorry,“ Will whispered, „I should have handled that better. I really, really should have. But when you march up to the podium, and there's all these high lords and ancient mosaics, just *staring* at you-“

She left the sentence hanging, and the hall was once again quiet. Suddenly, Sequine turned around, then began walking away. Lyuka first exchanged disbelieving glances with Redstone and Sunny, then promptly set out after her:

„Hey, hey, hey! What the hay do you think you're doing!“

„Academy,“ Sequine snapped, as if it was obvious, „Old friends.“

„What?“

The white unicorn suddenly stopped, then hit Lyuka across the head. „Allies!“

„Allies?“ Lyuka repeated, still reeling from the impact. That pony sure could *hit*.

Sequine groaned in frustration, then set off again, not bothering to explain herself a third time. Meanwhile, Redstone exclaimed a yelp of excitement:

„Of course! I bet that ol' rascal Reszenik is halfway to dean by now! I bet he would speak in front of Assembly!“

And just like that, he was off, quickly catching up with Sequine.

„While we're talkin',“ Sunny spoke up from Lyuka's side, „I could call up my boss at the Leviathan mill. I sure know *she* was interested in rockets. Don't you worry, Will, she's a genius at speeches.“

Through her watery eyes, Wilhelmina nodded almost imperceptibly, and the earth pony galloped off towards the nearest door. It was just Lyuka and Will now, standing alone in the great entrance lobby of the Assembly tower.

„You're such good friends,“ Will eventually whispered, shaking her head, „Doing so much... and I'm just gonna let you all down.“

„Nonsense!“ Lyuka smiled, „You'll do fine. As long as you stop moping around and starting doing something useful, that is.“

„Right, right,“ Wilhelmina nodded again, taking a deep breath, „I've still got contacts here. I can go talk to them. I'm not quite sure how much help they'll be, but it's something, at least.“

„Just remember, we don't have to win all the battles,“ Lyuka circled around her friend, glad to see her coming back to her usual self, „Just as long as they don't cancel us. Most the big stuff's already paid for.“

Wilhelmina nodded for a third time, much more resolutely than before, and a confident smile appeared on her rapidly-drying face. *There you are!*

„And I'm sure that nice mister Skies could help us too,“ Lyuka added, almost absent-mindedly, „I mean, *he's* gotta have contacts. Maybe even some-“

Seeing the smile quickly disappear, Lyuka shut up; unfortunately, already too late. Her friend first began drawing breath for an extended tirade, then instead chose to sigh deeply.

„No,“ she announced after a while, „Listen, L, I know you mean well... but no. Siding with some bourgeois factory owner is the last thing we're going to do. What's the point of getting to the stars if it's on the back of the exploited workers? The *whole point* of this entire Programme is to-“

„Sure, sure. As you want it, then,“ Lyuka quickly cut her off, shrugging, „Just remember there's always that option.“

Her friend shook her head once more, then quickly smiled and left in the direction of the entrance. Lyuka responded with a friendly wave back.

Seeing her disappear through the massive golden doors, however, she couldn't help but lower her hoof and sigh disapprovingly. *Twenty years. I'm not gonna give them up because of some silly ideology from a dusty book.*

She set off in the opposite direction, determined to find that mister Skies and talk to him herself. She was a bit wary of disobeying Wilhelmina's wishes, of course, but it had to be done. Sometimes, the only way to help your friends was to give them a firm slap in the face.

Besides, it's not like he's out for profit or something. He's doing this for his daughter! It'll be fine.

Huh. His daughter. Wonder how she's doing.

~~~~~

„Test article three, begin countdown! Five, four-“

As the loudspeaker's commands echoed from the concrete structures all around the small testing range, Cherry quickly scrambled to put her safety goggles on. All around her, crowded together on the tiny wooden podium, the other tech-ponies did likewise, preparing and steeling themselves for what would come. Their hushed, worried whispers slowly calmed themselves and died down, replaced by an anticipative silence. Meanwhile,

sitting next to her, Dash just relaxed coolly as she chomped down on a bucket of popcorn.

„-two, one, zero!“ the announcer finished, and the test was off.

With a mighty roar, the giant emerald dragon standing to the side of the podium first braced itself against the desert sand, then, taking one last deep breath, unleashed a veritable torrent of liquid fire upon the small metal sphere suspended at the centre of the concrete-lined range. Although this was already the third attempt, Cherry couldn't help but briefly yelp in surprise as the heat wave hit the audience stand; she was expecting some sort of impact, sure, but this last attempt was even more intense than the previous ones. She could actually feel her skin tanning in real-time as the giant fire continued to rage below. Celestia only knew what it was like to be on the *inside* of that capsule right now.

As the great dragon sustained its output, the engineers around slowly began speaking up again, scribbling down observations and exchanging opinions. Even though the main spectacle was the current capsule in front of her, Cherry's eyes couldn't help but wonder to the two previous attempts, whose burnt-out husks were lying silently just a few hooves away. Liquid metal was still dripping off one of them, forming a dirty black puddle in the sand. Meanwhile, the other lay further away, in twenty separate pieces, having exploded for some complicated physics reason.

As she was looking away, she didn't see what happened next. However, judging from the brilliant flash that momentarily overpowered the sun, and the sudden screams and groans of several of the tech-ponies, it probably wasn't very healthy for the eyes. Of course, Dash's only reaction was a very smug grin; perhaps the engineers would finally stop mocking her sunglasses now.

„Abort, abort, abort!“ the announcer pony demanded, „Abort test!“

The dragon, having finally heard the loudspeaker, slowly began winding down its flame, eventually whittling it down to nothing. With the fiery jet now gone, Cherry could finally see what had happened; the sphere lay split in half, like an egg, the reinforced equatorial seal having burst. The exposed interiors resembled an egg too, the molten wires and plastics bubbling in a white soup, giving off acrid and no doubt very poisonous smoke.

As the engineering teams surged forwards to examine the remains, Cherry turned to Dash:

„Not too bad, eh?“ she suggested before stealing a bit of her popcorn.

„Well, to be honest, I still think number one was the best,“ her friend confessed, still staring at the smoking capsule, „That flash was pretty cool, sure, but you can't beat a good, proper explosion.“

„Just don't get too hasty!“ Cherry smiled as she reached for even more popcorn, „We've still got two more to go!“

„Well, I'll definitely be impressed if – Hey, hey, hooves off!“ Dash suddenly realized what her orange, winged friend was doing, and was staring at her bucket in disbelief, „You ate everything!“

„Now, wait a second! You said we could share!“ Cherry defended herself, „And there were barely two bites left! You had like what, a hundred?“

The mare grumbled something in response, then took to the skies with her bucket, disappearing in the direction of the lunch room. A grin on her face, Cherry looked back to the testing range, and examined the labcoat-wearing ponies standing a safe distance away. She missed Zvezda, but it was probably better she wasn't around to see this. Just how many nights had she spent on that design again?

Quite all of a sudden, her mind became filled with a surprising feeling of discomfort. It wasn't from the repeatedly failed tests, buck no – she was quite confident Zvezda and her friends would fix these little bugs soon enough – but from something far greater. Glancing around hurriedly, she soon found it; the ancient beast, standing on the side of the podium, was now looking directly at her. Its enormous eyes were the size of her own head, and the brilliant emerald scales that coated its skin played with all sorts of colours. The sight seemed to tug at some primeval strings in her brain, urging her to take to the sky, to run away. The beast released a puff of black smoke, and Cherry's hind muscles tensed, ready to leap upwards.

It released another puff, and then another; she'd have to get out of here, and right away, or it'd burn her too. But her hooves refused to budge, as if glued in place.

*Don't stare at dragons*, her father always used to say. Now she knew why.

Suddenly, the giant beast opened its mouth, and out came not the burst of fire Cherry had expected, but a roll of laughter:

„You little ponies are so fun!“ it exclaimed. Not with a primordial voice that boomed across the landscapes, as she had mentally assigned to the creature, but a strangely *normal* one.

„I don't remember seeing you here before,“ it continued, breaking its stare and allowing her to move again, „New scribe?“

Under more ordinary circumstances, Cherry would have just whipped her head away and ignored the stupid creature. But the thing had just insulted her. It was *on*.

„Well, I don't remember seeing *you* here before,“ she quipped, flexing her wings, „New furnace?“

„Youngsters these days,“ the dragon scoffed, releasing another puff of smoke, „What's this world coming to?“

„For your information, you're looking at Cherry Skies, daughter of the Skies family, and Equestria's first equenaut!“ she shouted back, quite insulted at being made fun of, „I suggest you start behaving!“

„Equenaut?“ the dragon raised one of its massive eyebrows, then shrugged to itself, „Can't say I have heard that one before. Is that what young whipper-snappers like to call themselves these days?“

„Did you spend the last year sleeping under a rock?“ Cherry began, „How couldn't you-“

„Yes,“ the creature snapped back.



The single word stopped her rant in its tracks, and made her feel very, very stupid. Dragons lived in caves, and lived so long a simple nap might last a century, every little filly knew that... the following silence was embarrassing beyond words.

The dragon, now evidently satisfied, broke it with a deep, booming chuckle. Marching over to the podium, it extremely carefully patted Cherry on the back with a single claw. Meanwhile, she just stood utterly still, too petrified to say anything that would embarrass her even further.

„The Director calls me Cawthorne,“ he commented, turning to observe the devastated capsule and its ring of tech-ponies, „No idea where she got that from; but I must say, out of all the names ponies had made up for me over the years, I like it the most. Tell me, what happened to that tiny unicorn? It's usually her that talks to me, not young hatchlings.“

Cherry remained silent, still trying to reconcile herself. Meanwhile, a look of worry suddenly appeared on Cawthorne's face. For Cherry, it was surprising to see this concerned, sympathetic expression spread across such ancient, beastly features.

„She is still around, I take it?“ he asked again, now very uncertain.

„Canterlot,“ Cherry pipped up, „Politics stuff.“

„Hah! You had me worried there for a second, little Cherry!“ he laughed in relief, folding back his wings, „I was sure I just closed my eyes for a second, but you never can tell with your kind.“

Another silence dropped over the duo; this time of the contemplative sort. After a while, Cherry cautiously looked up to the great beast again:

„You with the Programme, then?“ she quietly asked, very much unlike her usual brash self. Something about this great dragon just made her feel utterly tiny and insignificant.

*Probably its size.*

*You're really useful, brain, you know that?*

„I suppose so,“ Cawthorne meanwhile chuckled, releasing yet another cloud of black smoke, „Not that I have ever heard of it, of course. I merely know the Director is a very kind pony, who needs some help every so often. That is all.“

„Wait, were you here this entire time? You'd think I'd notice a giant dragon snoring the middle of the Cosmodrome!“

„I beg your pardon, little miss? I do not *snore*.“

„But, come on! I didn't notice a thing! That doesn't make sense!“

„You ponies often don't,“ the dragon smiled. Cherry was about to complain further, then shook her head. If she pushed the matter, he'd probably just make more fun of her. And, she had to admit, with quite good reason. Instead, she changed the subject completely:

„So... you have no clue what's happening here?“  
The dragon shook his head.

„That makes two of us, then,“ Cherry smiled, looking at him again. For some reason or another, she was quickly warming to the venerable dragon.

*Well, it does belch fire. Fire is rather warm, is it not?*

*Shut. Up!*

„Oh, I am sure you exaggerate,“ Cawthorne smiled back, then looked at the capsule again, „But you have piqued my interest now. Just what *are* you doing here?“

Cherry briefly studied the melting piece of slag, then the industrial facilities all around. Finally, she glanced back to the ancient dragon, across his thick venerable scales and gigantic, magical wings. *Where to even begin...?*

„Well, uh, it's pretty complicated, and I wasn't lying when I said I don't understand half of it,“ she chuckled uncertainly, „But, um, basically, lots of science. And stuff. A bit here, a bit there... yeah, that's about it.“

Cawthorne's massive eyebrows frowned and focused as he mulled her words over:

„Science... science...“ he mumbled under his breath, tapping his massive paw against the weak wooden frame of the podium. Though Cherry trusted him now, her wings still tensed up, ready to take to the air. *Just in case...*

The old dragon continued this motion for a while longer; then, suddenly, his face lit up with understanding. „Ah! You mean *philosophy*!“ he laughed, puffing out a few more clouds of smoke as he winked at Cherry, „Trying to determine whether Celestia can make a plate so strong she herself cannot smash, or some such, are you now?“

As she struggled to respond, he looked around the site and nodded in amusement. „I simply *knew* there was something about you ponies. I've always liked philosophers, you know!“ he confided, then sighed, „The ability to just stay still for a while, and *think* about your surroundings; I used to think we dragons were the only ones who could do that! I am glad I was wrong, let me tell you. Of course, there does seem to be a lot less furled grey beards around than usual, today-“

„Uh, well, that's because we're not philosophers, I guess,“ Cherry quickly interrupted the giant dragon before he got irrecoverably locked into that train of thought, „By science, I mean more like physics.“

Cawthorne paused, then nodded again, slightly befuddled, „Yes! Philosophy. Is that not what I am saying?“

„I mean like, physics. With equations and stuff,“ Cherry attempted to clarify, waving her hooves around in a vain attempt to demonstrate, „You know, lots of numbers, little confusing symbols all around, that kind of thing?“

He stared at her (and her peculiar hoof gestures) for a moment longer, obviously quite lost. „Oh, those fancy squiggles?“ he eventually asked, as if remembering something, „Did they merge into philosophy when I was not paying attention, or what?“

Cherry struggled to come up with an useful answer; her knowledge of classical philosophy was essentially nil – what little her father had forced

her to read when she was little, she had already forced out of her brain anyway – so trying to get her point across to this dragon was pretty hard. Still, remembering one of Redstone's many boring speeches, she suddenly got an idea, and in a few more seconds managed to transform it into a sensible sentence:

„Well, in a way, that's what we're doing here, yeah,“ she shrugged, trying very hard not to sound like an utter moron to this ancient dragon-philosopher, „You think about stuff, like how the world works, and then you put your ideas into numbers, and multiplications, and triangle roots and things. And then you use that to find out new things, which you'd never have thought of otherwise.“

„But it is just little wiggles,“ Cawthorne shook his head in protest, „They don't say anything. I can understand writing numbers down, just to avoid forgetfulness, but what about all the other symbols? I seem to remember this one very smart pony, getting all excited as she explained to me this 'discovery' of hers. Calculatus or some such. What can *that* possibly be good for?“

„Err,“ Cherry stuttered. She had asked herself that very question many times during Redstone's lectures. And this inquisition by Cawthorne felt way too much like a test.

Still, the dragon was challenging her. And, by extension, everypony on this Cosmodrome, along with all her friends. She'd make up something that would sound convincing, whether it would make sense or not!

„The thing is,“ she gradually began, „When you've finally got your equation, you can put in, like, *any* numbers. Any numbers you want. And you'll get the answer for that situation, and from that you can work out what will actually happen in the real world. Even for situations you've never tried before, you can work it out, just with the right equations and a bit of paper.“

The great dragon remained silent for a while. „Precognition?“ he finally offered, „I had thought such magic was impossible. Next thing you'll be telling me, earth ponies can do it too!“

„My teacher's the best at it, and he's an earth pony!“ she couldn't resist a wide, cheery grin. Cawthorne gave her a prolonged stare, as if trying to

catch her out on a lie, then shrugged and sighed heavily, releasing a long gust of smoke:

„Earth ponies telling the future! What's the world coming to? I swear, every single time I wake up, you lot change all the rules.“

Meanwhile, the tech-ponies began retreating from the capsule, obviously satisfied by their observations and measurements. The launch announcer turned on her microphone again, and ordered the crew to begin preparations for the next attempt.

„Somehow,“ Cawthorne winked at Cherry, „Your little tale seems a little too fancy to be true. Even then, I must admit it was a pretty interesting idea. If I were you, I'd write a book.“

And, with those words, the dragon ended their dialogue, setting out to the testing range again.

As he slowly withdrew to his firing position, Dash impacted the podium, bearing another full bucket of delicious treats.

„Did I miss anything?“

„Not really, no,“ Cherry giggled to herself, still thinking about the conversation. Somehow, even though she hadn't really been very successful with Cawthorne himself, the whole thing seemed to make a lot more sense in her own head, now. Redstone's past speeches, all those 'fancy squiggles'... there was a *reason* behind them. A sensible one, even.

„Funny how you never think about stuff properly until you try to explain it to somepony, isn't it?“

The blue mare gave her a strange eye, but then shrugged and settled in to watch the show. She crunched down another mouthful of popcorn, and Cherry – stealing some – proceeded to do the same.

„Test article four, begin countdown!“

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Tick. Tock.

Tick. Tock.

Wilhelmina detested the infuriating sound. Why on Equestria did all these offices have to have these incredibly loud clocks? Were these Canterlot ponies really so much above a 'mere' clock-tower in the middle of the city?

She glanced around the room once again, trying to divert her attention from its single occupant, who was still studying her stack of papers. Aside from the main hearing amphitheatre, the hallways of the Assembly tower were full of small meeting offices of all sorts, ideal for making deals and forging secret alliances. This was one of them, a dimly lit room right out of those cheap, high-flying romance novels Lyuka loved to read so much. Exquisite wooden panelling, a fine red carpet, a large crystalline chandelier hanging from the ceiling; which, despite its size and complexity, nevertheless managed to bathe the room in hushed, conspiratorial shadows. The perfect setting to hatch a plot, even against Celestia herself.

The only thing that diminished the effect, however slightly, was the array of fruits and salads spread out over the massive round table at the centre. It looked incredibly tasty, sure, but its cheery colours looked ever-so-slightly out of place in such a dusky room.

Its lone occupant did not add much either; the dark unicorn mare, clad in one of those infinitely interchangeable suits and top hats that everypony around here seemed to wear, along with smart thin-lensed glasses, was munching loudly on some rare berries as she lay on the plush sofa positioned just across the buffet table, and lazily scanned the last few lines of Wilhelmina's proposal.

Finally, after what seemed like an eternity, she looked up.

„Well?“ Will asked impatiently, eager to break the lengthy quiet, „What do you think, madam secretary?“

The mare first took another mouthful of berries, then, swiping her hooves against the velvet sofa – Will couldn't help but think of the poor, poor cleaning pony who'd have to somehow get all that fruit juice off again – scanned the document again, ever so slowly. Eventually, she spoke up:

„It certainly is an... intriguing idea, Director.“

Will's eyes lit up, „So, you'll...?“

The mare lowered her gaze to the buffet table again. „Unfortunately, it does not strike me as particularly tenable, especially not at this time.“

Wilhelmina's heart sank at the words. Meanwhile, the secretary continued:

„Do not get me wrong, Equestria as a whole would certainly benefit from a network of high-speed rail. And you are indeed right in stating that your facility is the only one in existence capable of high-volume production of the necessary boilers. You have the ponypower, the experience, the production lines. Nevertheless, your plan has a fatal flaw; who is to pay for all this?“

„Well, that's why I came to you, isn't it?“ Wilhelmina quickly spoke up, trying to somehow salvage the situation, „Surely, if there's any department that can afford it, it's the ministry of infrastructure!“

The mare chuckled as she took her glasses off, „True enough. But you must understand, madam Director; high-speed railways are something ponies can do without, and rather easily. You simply cannot compare it with something like country-wide electrification!“

„But surely-“

„Countess,“ the mare's expression became adamant, „I do apologize, but there is no way this little pet project of yours is ever going to be passed by any committee. Electrification is proven, it works! There's even been a pilot hydroelectric dam constructed in one of the rural areas, and it's proven to work wonderfully. Electricity is so much cheaper than enchantment, the nearby villages are simply scrambling over themselves just to get connected first! On the other hoof, the existing trains are good enough. They might not be fast, but they do get there in the end. There is simply no need.“

As the secretary was going through her long speech on the wonders of electricity, Wilhelmina's mind was scrambling for ideas; and sure enough, she managed to compose one just as the mare finished.

„Since electrification is proving such a great success, then,“ she hurriedly began, turning over to a blank piece of paper and levitating out a pencil, „What about a country-wide distribution of computeronic machines? We certainly have enough personnel to start mass production. Imagine it, madam secretary! A machine in every school, in every town hall! They could process census cards, replace endless mountains of paperwork, educate a new generation of-“

Again, the mare cut her off with a brief chuckle; one which was quickly getting on Wilhelmina's nerves. *How can these ponies be so short-sighted?*

„Once more, madam Director, I am afraid I must decline. I have, in fact, been to the Lunar observatory to take a look at one of your constructs, and whilst what I saw was impressive from a technical standpoint, I do not believe there will ever be a market for more than five or six of such machines, at best. Again, there is simply no need.“

There is no need.

„Well, of course there's no need!“ Wilhelmina was now becoming very indignant, „There has not been a *need* in Equestria for a thousand years! This is exactly what Celestia's speech warned us against! If we just stick to what works and what we know, we're going to dig ourselves into a hole and just descend into stagnation, content to simply graze grass like all the other animals! Do you want that to happen to ponykind? Do you?“

„I do not believe I am getting through here, so let me make myself quite clear: The department of infrastructure is, and always has been, at the leading edge of Equestrian technology. We are bringing all ponies into the future, one light bulb at a time. However,“ the secretary took another berry, then gulped it down with a glass of water, „We have to focus ourselves on realistic projects. Ones with provable, empirical, *results*. Not distant flights of fancy that have no purpose aside from 'inspiration'. If your project ever becomes practical, then you have my guarantee, we will pick it up; but until then, I bid you a good day, Director.“

Wilhelmina haughtily turned her head to the ceiling, then briskly trotted off, slamming the door behind herself. As soon as she was alone in the corridor, she trotted a short distance further, then collapsed on the nearest sofa and stuffed her head into the pillow.

There is no need.

No practical uses.

It's nice, but what is it good for?

Everywhere she went, she got the same reply. State secretaries, chairs of media companies, famous academics; all very important ponies, who had been happy enough to pay lip-service to the program back when it was popular, had suddenly become very practical and responsible. There was not a single dreamer amongst them.

After all, at the back of her head, Wilhelmina herself had to admit that she could see their point. Right now, there really *were* no practical uses for rocketry: Even the secretary of defence, who had initially professed interest in the project – for tracking the migrations of dragons and ursas in real time, directly from orbit – simply could not justify its extreme price tag to her superiors, especially when compared to traditional pegasus patrols. And same went for all the others. Good idea, but we don't really have the bits, sorry.

No matter how hard she tried to argue that this was an investment towards the future, that the generations to come would be eternally thankful to them; they always had their cost analysis reports and data tables at the ready. There was always a bigger, far more useful project, which would bring results sooner. Urban renewal, social programs, that thrice-damned electrification, all were just examples of an overlying pattern.

To be absolutely fair, they even managed to touch Wilhelmina. For the first time, perhaps in her life, she was wondering whether all this was just a giant waste of bits, for the sake of a personal dream.

Raising her head out of the pillow, she sighed. *Is it really worth sacrificing today, for a tomorrow that might never come?*

She mulled it over for a few seconds, then suddenly burst out laughing; that right there was a really good question. One philosophers and historians could spend their entire lives attempting to answer.

Seeing as she was neither, though, she'd just focus on getting her rockets funded instead.

But how? Every lead that she tried had come up empty, and even considering the legendary length of Canterlot lunches, she was fast running out of time. Nopony was willing to stand up in the Assembly, to face Celestia and all those other high nobles head-on, and lead a speech in support. And the higher they were, the more adverse they seemed to be to taking risks, as if it would mean sacrificing everything that they had accomplished thus far.

Which, to be fair, it might. After all, the Assembly were an unpredictable lot, and Celestia was the most mysterious of the bunch; she was so many steps ahead of everypony, and playing so many different games at once, there was no telling what her next decision would be.

„No luck?“

It was Lyuka; her oldest friend, the first she had chosen to share the dream with. Shaking her head in response, she watched the lively, green pegasus slowly approach from down the hall. Suddenly, Wilhelmina's eyes focused. There was something in the way her friend was walking, something... *hesitant*? Almost as if-

„Please, Lyuka,“ she began, „Tell me you didn't.“

The pegasus froze in her tracks. Wilhelmina held her gaze for a second later, then scoffed:

„I told you we don't need those greedy profiteering ponies. We can get through this on our own!“

„*How?*“

It was a simple question; the kind that was always the hardest to answer. While Will struggled for an answer, Lyuka took her silence as a reply of its own:

„Come on, Will! Get your head out of that dusty book! There's a reason nopony talks about it anymore; it just doesn't make sense!“

Wilhelmina gasped. Had anypony else said this, she'd have responded with a valiant tirade on the virtues of Trottsky, and exactly why his writings were so important in modern society; especially with the 'second miracle' of industry now in full swing across all of Equestria. Equality amongst everypony was now more important than ever, and the Space Programme would do its best to bolster it.

But this was Lyuka. Her dearest friend, a pony who had been there for her since the beginning of this grand odyssey. Seeing her draw another breath, Will froze. *Please, Lyuka. Please. Don't do this.*

„Will, you are a mare of science,“ she whispered, now hovering right besides her. Wilhelmina allowed her to raise her chin with a hoof, and looked her friend straight in her bright, olive eyes, „Tell me... how did we ever reach the very edge of space? What method was it that set us apart from just superstition?“

You just had to go there, didn't you? You've got me all figured out.

„We took the theories that didn't work,“ Will sighed emptily, closing her eyes, „And we threw them away.“

„Exactly. Look, I know just how much you want equality for everypony, “ Lyuka briefly paused, letting the sentence hang in the air, „And I must admit, I don't like those snooty capitalists that much either. But what are you gonna do about it? Celestia tolerates them, so they're here to stay, at least for now.“

„I know.“

„Who was it that provided all those tonnes of top-grade metal? Trained our small army of tech-ponies, even helped with the research? You're not gonna lie we did it all by ourself, are you now?“

Now, that would be plagiarism. Something a true scientist would never do. *Dammit, Lyuka. Don't make me do this!*

„And who alone has enough pull to turn the Assembly around? Save all that we worked for?“

Her inner self screamed at her. This was all wrong! There had to be a perfectly rational explanation for it! She just couldn't think of one right now.

„Please, Will,“ Lyuka pleaded to her, „All I ask is you think about this rationally. Like the scientist you are.“

Like the scientist I am. Will couldn't help but smile at those words now.

„I don't even care *what* you decide, just *why*. Personal belief's fine, but don't sacrifice everything we ever worked for, just because of some silly ol' superstition.“

Opening her eyes again, she looked into Lyuka's face, seeking any one trace of deceit, of false pretence; as much as she was loathe to admit it, right now, she'd accept any excuse to refuse her. Even if it meant breaking their long friendship.

Unfortunately, Lyuka's face was nothing but genuine. Every pore on her tanned, emerald skin, every last hair in her chemically-bleached mane – even the few grey ones – seemed to radiate sincerity itself. This was not some horrible trick to get her to submit to the capitalists; only honest concern, from her best friend.

Damn it!

Even now, as she was thinking about it, she had to accept Lyuka's viewpoint; what she was doing here really was silly. Thinking this through *logically*, without the muddying puddle of emotion, the situation really was quite simple; the Cosmodrome was in trouble, and these industrialists could help. Nothing more, nothing less.

„I- I suppose we...” she trailed off, then lowered her head again, and reduced her voice to almost nothingness, „Yeah... let's try.“

It's not like she could have ever toppled them anyway, right? Celestia wasn't going to budge, so these ponies were here to stay, and there was nothing she could do to change that.

Nothing, she repeated to herself.

Not that she believed it, of course.

Meanwhile, a wide grin broke across Lyuka's face. „Glad to have the ol' you back!“ she laughed, then, lifting Will up from the couch, flew her off and gently lowered her to the ground. „Let's get going, now. Break's almost over.“

Indeed, the gong sounded only a few minutes later, and the emptied halls of the Assembly soon began filling with activity. Assistants and ushers were galloping around, carrying paperwork and final refreshments for their superiors. The nobles themselves, meanwhile, began streaming in through the doorways and from the private offices, forming up into large rivers of frocks and top hats as they grouped up on the way to the central hearing hall. Amidst all this commotion, Wilhelmina meandered about silently, led around by Lyuka and still lost deep in her own thoughts. *Remember the Dream. Just remember the Dream.*

Despite the sheer chaos, they soon found their friends, huddled up in a tight group next to the main entrance. Judging by their tired and dispassionate faces, they obviously haven't had much luck gaining allies, either. *There goes the last hope of that, then.*

Standing next to them was another group of ponies, most of which Wilhelmina didn't recognize; however, seeing Mr. Skies standing at the head of the group, any ambiguity about their purpose here immediately vanished.

Noticing the arriving director, the red pegasus quickly approached and shook her hoof:

„Greetings, madame von Brown! Based on the eager expression of your friend,“ he pointed to Lyuka, then briefly laughed, „I suspect you've accepted my proposal?“

Will nodded curtly, but did not say another word.

„Excellent!“ Mr. Skies exclaimed, unfettered by her coldness, then dropped down to a far quieter and more hushed tone of voice:

„There is little time before the meeting, so I shall make myself brief. The plan is as follows: Since a vote has already been called for and seconded, all we can do is fillybuster. The mayor of Detrot-“ he paused, then gestured

to a smartly-dressed earth mare standing in his group, „-has already agreed to lead the effort. She'll present a long speech on the Cosmodrome's enormous impact on industry, local infrastructure, and how that has benefited the locals.“

Somepony has obviously thought this through, Will noted dryly, then looked towards Lyuka, who was still fluttering excitedly at her side and hanging off the stallion's every word, *You obviously weren't expecting a no for an answer.*

„Now, of course, there'll be protests,“ he meanwhile continued. He seemed full of energy and passion in his talk, Wilhelmina noticed, constantly winking and gesticulating wildly; as if he had somehow managed to conquer the traditional pegasus urge for flight, and convert it into a fiery aptitude for politics and management, „Calls for an immediate vote will be voiced. Objections of all sorts. You know the drill. That's why Graf von Hufgrund – that yellowish unicorn over *there*, yes, the one with the grand moustache – will make *another* address to the entire Assembly, this time on the wonders of industry. Now, that in turn will get called out by the Speaker, or maybe even Celestia, for being off-topic. And that's where we play our master card.“

Wilhelmina raised one eyebrow. The stallion savoured the moment for a second longer, then smiled at her:

„You! You will step forward, and put forth the idea that the Space Programme and our national industry are inseparably and eternally linked; that what happens to one necessarily affects the other. We supply you with the industrial basis required, and you in turn both serve as a great customer, and also make the technological advancements necessary to push our factories to new heights. Add some techno-speak about those new smelting methods you developed for the heatshield, and that nifty new way of insulating copper cables used in the computeronics that all the factories in Equestria have now copied, and you've got yourself a winner!“ he victoriously ended his exposition, then rounded it off with a wink. „So? What do you think?“

„I don't know,“ Will sceptically announced, going through the plan in her head, attacking it from different angles, „Seems to put an awful emphasis on industry. I know you believe in your own company, Mr. Skies, and all the

amazing things mechanization can bring; but do the other representatives truly think likewise?”

For a second, he didn't reply. And then, suddenly, he burst out laughing: „Good question!“ he announced to the world, shrugging wildly, „I don't know!“

This lackadaisical response stunned Wilhelmina. Stuttering, she nevertheless got out, „Then how on Equestria can you-“

„Let's ask one!“ he grinned, then gestured over to the mayor of Detroit, who trotted up immediately, „Say, countess, what do *you* think of the good Director's question?“

„Well, on the one hoof, I must agree the strategy is horribly one-sided,“ the mare slowly began, obviously equally taken aback by the pegasus' sheer energy, „However... at the same time, I do not believe the rest of the Assembly will be able to put up any form of resistance against it. After all, they know the age we live in; they've seen the wonder of electrification with their very eyes! As long as you present all the off-shoot technologies developed during your Programme clearly – and make it equally clear that the most exciting is yet to come, as long as there is funding – I do not see any problems with it.“

The second gong reverberated throughout the hall, and Mr. Skies quickly glanced towards the massive golden doors towering nearby. „So, everypony ready? Everything clear?“

Wilhelmina nodded, and he was off; but not before padding her on the shoulder and laughing encouragingly for one last time:

„Excellent! Just follow the plan, and don't trip up. Today's a big day for all of Equestria, mark my words! After all, who knows what ponies will be able to achieve through the joint and unbridled forces of science and industry? Not even Celestia, my dear Director! Not even her.“

And with those words, he disappeared into the crowds streaming around them. The few politicians that had accompanied him similarly bid their farewells – though in a far less ostentatious manner – and then it was just Wilhelmina, Lyuka, and all the rest of their little group. Just like old times.

Seeing the last of the nobles disappear, Will turned around to take another look at them. Gone were the devastated expressions from their faces; whatever gave that pegasus his mighty energy, it seemed to be infectious.

„Ready to make history?“ Lyuka grinned, landing at her side. Wilhelmina feigned an enthused smile, then set out towards the enormous swinging doors of gold that led forward. As she marched, she brooded; no matter how many flabbergasting adjectives the old capitalist used to describe his plan, something about it still seemed deeply and utterly *wrong*. Like she was selling her very soul, along with everything she ever stood for, all just for getting a few shiny firecrackers into orbit a little faster.

Oh well, she shrugged it off with a forced smile, *You can't have it all*.

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*'Introductory Differential Equations'* probably wasn't certified primary-grade reading material in any Equestrian syllabus, but the little filly didn't seem to mind. Smiling as she lay in the soft shadow of the apple trees, Zvezda slowly leafed through the pages of the book, letting Ruby stop her at any time and inquire about the curious symbols found therein.

*I must admit, even I didn't realize you were this smart, kid*, Zvezda thought to herself as she watched the filly work through an equation, trying to solve it. She wasn't doing calculus, obviously; Zvezda had carefully skirted past all those triangles and squiggly snakes that were found on many pages of the book, and stubbornly refused to answer any questions whenever they were brought up. However, the rest of the mathematics was fair game, and there was plenty of elementary algebra to be found on almost every page – moving symbols around, rearranging equations, substituting variables, and so forth – that Ruby seemed equally content to play around with.

Looking up from her piece of paper, she dropped the pencil she was holding, then tugged at Zvezda's mane again:

„Is this how you're supposed to do it?“



Still smiling, she examined the filly's working out; the route she had taken was very circuitous, obviously, and there were plenty of things she still had no idea about – like writing 'X\*X\*X' instead of  $X^3$  – but, eventually, she had managed to substitute everything in and get the right answer. Who could have known somepony as young as this would understand simultaneous equations?

„You've got a gift, you know that?“ she beamed as she patted the filly on her head, „I'm pretty sure this'll be your cutie mark, right here.“

Instantly, the filly's head shot back to examine her flank, then disappointedly returned back upon seeing it still bare.

„Don't worry,“ Zvezda remained encouraging, „Maybe you still need to wait a bit longer. Practice makes perfect, don't you think?“

Ruby nodded eagerly, then, with light in her eyes, turned the page over to a blank side and eagerly awaited the next question. Zvezda wrote down another set of two simultaneous equations, except this time, one of them was a simple quadratic. As the little filly almost jumped with delight, she set the paper down, then got up on her four hooves and stretched each of her legs in succession. Meanwhile, the filly began quickly flipping through the book by herself, already looking for advice all on her own.

Seeing this, Zvezda smiled. *She's already learning how to learn without me... pretty soon, she'll know everything in that book by heart!*

*I'll make sure you get an amazing education, kid. I don't know how, but I'll work it out.*

Of course, the first step on that road was to leave her alone, just for a little while, to see how she would cope. With a brief wave and a reassurance she'd be back soon, Zvezda left the little filly alone in the back garden, then slowly wandered out onto the dusty streets, wondering what else there was to do in this tiny town. The sun was already beginning to set, and everything was utterly deserted. A few of the locals were still out on their porches, but, seeing her approach, quickly returned inside, some even loudly slamming the doors as they went.

Though Zvezda turned her head away in disdain, deep down she didn't really mind. After all, the ponies here were perfectly understandable; trapped inside all these political and corporate struggles, what did they gain out of it? Expensive water, and a great lot of worrying.

Suddenly, a flash of genius hit her. *Is this why the public hates the Programme so much now? We promised them great things; incredible wonders, all at the hoof's reach. The stars for everypony. But all they got were dashed hopes at best, lung complications at worst.*

*Had we gone slower, had we bided our time... would anything have come out any different?*

Submerged in such morose thoughts, she suddenly looked up to realize her hooves had led her to the one place in this town she had felt truly comfortable; the train station. She stared at the enormous prototype engine standing on the rails before her, a black colossus of steel and science. Once the pride of *Brandenburger Stahl* and all of Equestrian technology, it was now disrespectfully left out in the open, gathering sand and dust; which was already beginning to slowly infiltrate its ephemerally-delicate inner workings, fouling up axes and jamming gears.

To Zvezda, it brought up the image of a great painting, thrown out into the garbage, spilled tomato sauce slowly soaking into its canvas and destroying it forever. Another pony might suggest that artworks were unique, whereas locomotives could be replicated, mass-produced; but to her, it was the same. Every machine was solitary in its detail. The exact flow of the filler as their boilers were delicately hoof-welded, the tiny dents in the metal where it had brushed against some crane or other construct in the workshop; everything came together to form the work of art. She pitied those ponies who couldn't see all this wonder and sheer awe present in every machine around them, she really did. Though her gift had its downsides at times, she'd never exchange it for anything. Not even for the kingdom.

„Well, hi to you too,“ Ray's voice, almost unrecognisable in its dryness, sounded from somewhere. Quickly shaking her head, Zvezda realized he had been standing in the doorway of the engine's cab, probably for a good few minutes now.

*Awk-ward.*

„Uh,“ Zvezda stuttered, quite uncertain as to how to brush out of *this* situation, „Hi! Err... I know it sounds stupid, but I didn't actually notice you there. Sorry. I can be dumb like that.“

Ray just laughed in response as he swung open the door and jumped from the cab. He first looked at Zvezda, then turned away and began slowly walking past the giant wheels, scrutinising every speck of dust stuck to the incredible machine.

„So,“ he spoke up after a while. „How have you been?“

„Alright, I suppose,“ Zvezda chuckled nervously, digging her hoof into the sand, „This one little family took me in. They're a bit backwards, but... nice. Very nice. And their daughter's a genius.“

Ray nodded back, still looking at the engine.

„And you?“ Zvezda asked, very cautious.

„Eh.“

„The townsfolk treating you alright?“

Ray continued studying a particularly fouled-up bearing for a while longer, then shrugged again, „The sheriff brings me food and water. I guess I can't complain, seeing as I'm apparently the one who brought all this to their town now.“

The words stung Zvezda. But that was a good thing. At the very least, it meant she still had regret. That she wasn't a *completely* terrible pony.

„Ray,“ she began, walking up to approach him. He remained turned away, however, still trying to clean away the grains of sand with his hoof, „I know this won't change anything, and that I can't undo what I did wrong. But, for what's it worth, I'm sorry. I really am.“

No response whatsoever. But she was saying this as much for her own sake as for Ray's. She wouldn't stop:

„Maybe you already noticed, maybe you didn't, but I'm horrible with words. I always tangle myself up when it comes to saying the right thing, fumble over and say something wrong,“ she began, then smiled to herself, realizing even those lines could have been worded so much better. „Especially when it matters,“ she added, „But even then, I should've never, ever, ever, said something like I did. I shifted all the blame to you, all for getting a slightly better position to make my argument from. I did that, to somepony who's been nothing but friendly ever since the moment he saw me.“

„I'm sorry,“ she finished, still staring at the side of his face. Suddenly getting an idea, she began leaning in towards him, just for a quick kiss on the cheek. She usually wasn't the type to act this fast to anypony, but she wanted to prove just how sorry she was. Plus, Ray was the first even remotely attractive stallion she had seen in months. *Honestly, guys. Just because you're rocket engineers doesn't mean you don't have to shower.*

As she approached, however, he acted faster, and with a raised hoof he turned her away. Slightly fazed, she quickly backed away, as if to deny to the world she had ever made such an attempt in the first place.

„We all are sorry for something, aren't we?“ Ray suggested in a distant tone of voice, obviously lost in thoughts of his own, „Things we regret. Things that are done and gone, and we can't ever change them again.“

„But if we *could*, then we know exactly what'd we'd change, don't we?“ Zvezda nodded, smiling at the sand, „Got it all planned out, even though it'll never happen.“

„Heh,“ Ray chuckled to himself, „I guess we're just stupid, that way.“

Zvezda nodded back, and another shroud of silence fell over the two ponies. Ray remained half-turned away, still trying to unjam the small, exposed axle with his hoof. Meanwhile, she passed the time by examining the curious braking mechanism that surrounded each wheel, lost for more things to say, all the while kicking herself mentally. The scene was just so *perfect* for this; the empty desert town around them, the slowly setting sun, the beautiful locomotive standing right there... *Why can't I do this?*

„Wow,“ she eventually commented, „I'm *really* bad at this heart-to-heart stuff.“

„Eh,“ Ray shrugged, stopping in his repair attempts, „I give it a three out of ten. Not quite the worst I've heard.“

„*Three?*“ Zvezda suddenly became furious, „Come on, that's at least a six! What about all that 'planning' stuff? That's grade-A material, right there!“

„It sounds like it's from a bad romance novel,“ he turned away from the engine, and looked her in the eyes. Only now did she notice the amused smirk spread wide across his face.

„Come on!“ she loudly protested, approaching him, „At least it was better-worded. And you've got to give me extra marks for the presentation.“

„Presentation?“ he raised his eyebrows, then turned around in step as she slowly circled him, „Honestly, Zvez. That was one of the most sloppily-handled apologies I've ever heard. I think you'll have to repeat the year.“

„Oh, really?“ she gave him a sideways glance, stopping in her tracks, „I think you underestimate me, mister. I know some *very* influential ponies, who'd be *highly* displeased if I failed your class. Surely we can arrange something?“

Ray heartily laughed again, now fully back to his previous self. „Oh, I am sure we can, countess.“

Zvezda leant in closer. And so did he. Some annoying part of her brain complained at the speed she was moving at here, but the rest shouted it down. The Cosmodrome was *sorely* lacking in the stallions-who-heard-of-grooming department, and she had been stuck there for *months*. Perhaps she'd have to write a complaint to the Director.

As their lips were about to touch, however, she got a strange feeling. A flicker of something imperceptible, hiding just outside her vision.

A *hunch*, one could even call it.

Suddenly turning away, she scanned around her around to check what was causing it, leaving Ray just standing there, alone and confused.

„What's-“ he began, only to be hushed by Zvezda. There was a mystery to solve!

Searching the nearby area a few times, trotting back and forth, sweeping her head high and low, she soon localized the origin of the feeling; and, unlike with the rocket, this time the problem was obvious.

It was the town's central pump, a short metal structure squatting near the train station, and feeding the local water tower. It was a standard design, with a giant spoked wheel ponies could yoke themselves onto and turn, powering the rest of the machine. For such a heavily-used structure, it still looked fairly new, and Zvezda gathered it had been installed only recently, for the purpose of the trains.

And that's exactly what was so weird here! She had never looked at it from so close before, not without other ponies crowding around it and blocking her view. But from what could she gather now, up close, it looked exactly like the standard reciprocating *Rückenstück* model used in so many rural places all around Equestria to supply the local trains with water. This was a tiny town, and even considering the demands of the trains – *The sheriff said 'One every three days', didn't he?* – this machine was an old and tried model, with more than sufficient pumping output. It should be working just fine. Intrigued, she peeked her head under the metal reinforcing rods and inspected the piping underneath.

„Ray, get up here and start pumping,“ she resolutely commanded, speaking very distantly, her mind already running through the possible failure modes, „Hurry!“

„Huh-what-“

„I need to see it moving. Now go, go, go!“ she stamped her hoof. Ray replied in some way, but she didn't pay any attention to his words. This was more interesting.

Ever so slowly, the stallion yoked himself onto the power-wheel, then began straining to push it, working all by himself. The machinery slowly

sprang into life, simple pistons starting to turn and channel the fluid upwards, from the well shaft deep below.

A few minutes' more of careful inspection revealed the core cause; each time the little cylinder completed its up stroke, the badly-mounted receiver spilled about two thirds of the water, causing it to fall back down again. She looked at the silly thing; one of its two attachment screws had fallen out, making it tilt at least sixty degrees sideways. The other one looked loose too, as if it could fall off any minute. Had the ponies here waited any longer, the well would break down completely!

Suddenly, a loud shout from right behind her broke the brief trance she had found herself in:

„What th' *hay* are you folks doing to our pump?“

It was the sheriff. Pulling her head out of the machinery again, she looked at his stern, suspicious face, and the small group of gruff, committed townsponties that were following him.

Ray stopped turning, and glanced to Zvezda. This one was on her, now.

„Your stupid pump is broken!“ she shouted back, gesturing to the machinery inside, „And if you don't help me fix it, right now, it's gonna fail completely!“

The ponies stopped approaching threateningly, and were now just standing there, looking dumb in a strange mixture of surprise and confusion.

*Could I wish for any more?*

„Come on!“ she yelled again, „On the double! You three there, help poor Ray turn this. You, find me a fifteen screwdriver! We're fixing this today, even if it takes us the whole night!“

Seeing the ponies quickly respond to her orders, a confident smirk appeared on her face. *You know, I'm getting pretty good at this management business. They really should promote me again, sometime.*

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The sun had long since set, and the central marble hall of the Assembly now lay dark and cold. The massive chandeliers having been extinguished, all that was left lighting the room were the scant few lights that flanked the doorways.

Of course, that just leant the moonlight even more space to work its magic. Shining through the massive, finely-detailed mosaics that lined the round walls and the ceiling, it lit the room in such a serene way, Wilhelmina could hardly conflate in her mind the images of intense argument inside this very room from just a few hours prior.

The subtly-glowing, white figure of Celestia herself, standing alone and immobile in such unearthly light, additionally gave the entire scene a whole fourth dimension of otherness. Wilhelmina thought back to their gallery, Cape Coltaveral Stable II... even among all the paintings of strange alien horizons and impossible spacecraft, this sight would fit right in.

Ah, yes. The Cosmodrome.

„Can I ask something, my princess?“ she spoke up, breaking the silence that had befallen the room, for what now felt like a century.

„Of course.“

Her voice was still warm, motherly; but there was a distinct new chord in its tonality now. The feeling of stoic reassurance.

„Had you really intended this to happen?“ she began, trying very hard not to let the scathing anger flash through her words, „Is this how you wanted it all to come out?“

„My dear Wilhelmina,“ she began after a brief pause, „I fully intend for ponykind to reach the stars. Your work here will not have been in vain, you can be sure of that. However-“

Celestia approached, and looked her straight in the eyes. It was hard to remain angry when confronted with such a warm, compassionate face, that much was for sure. And yet, Wilhelmina did.

„-you have to realize, the time is quite simply not there yet. You have rushed into this so fast, everypony is still reeling from the shock. Whole industries still have to catch up. Mindsets still have to adjust. Just a century ago, we still lived on farming and sustenance. We have to learn to look towards the stars; and it will happen, but as all these things, it will take time.“

„To be entirely honest, Princess,“ Wilhelmina curtly began, no longer minding her words as she did in her previous dialogues with the goddess; since from this day on, Celestia was no longer her boss. „That is rather easy for you to say. You've got loads of time. We... /... don't.“

Another sad smile appeared on Celestia's face. It was compassionate, it was warm... but it couldn't deny the truth.

„What do you *want* me to say, Wilhelmina?“ she posed, „You know I can't comfort you with lies, you are too smart for that. And you know equally well that this is out of my powers now; what is done is done, and there is no way to go about changing it.“

What is done is done. Wilhelmina thought back to their great plan, and how it all came falling apart; the mayor of Detroit and the Graf had put up a courageous fight, that much was for sure, but when it came for her to speak, she failed, utterly. No matter how she tried to phrase her speech, how well she tried to argue the wonders of industry, it just didn't work.

How could it, after all? She never believed any of it anyway. It was all made up, and despite the fact she was a fairly capable speaker, not even she could look Celestia directly in the face in the face and lie. During all their planning, Mr. Skies and Lyuka had clearly miscalculated on that one factor. And now everything was gone, and there was nothing to be done about it.

„But, surely,“ she pleaded, „Just one more-“

„I have already helped you with your dream as far as I could,“ the Princess resolutely shook her head, „Grand royal speeches, all the publicity you could ask for, plenty of royal pomp and ceremony; you might not have realized it, but today marked the *seventh* time have I defended your enormous budget in the Assembly, Director. Seventh. All fought and won,

despite your stubborn insistence on that ridiculous façade. Really, you should have just admitted the truth from the start.“

Wilhelmina nodded along in resigned acceptance. So, the goddess had known about what 'Atmospheric Experimentation' *really* meant, probably from the very beginning. Then again, knowing her, it was not a big surprise. And it definitely explained a lot.

„The funny thing is, I really think we could have done it,“ she admitted, turning her eyes away from the Princess, „That we finally got all the bugs figured out, all the questions answered. Just a few more bits to pay for the final rockets, and we'd be there, you know?“

„Do not worry, Director. When the time comes, I will make sure you are well-remembered for your efforts,“ Celestia smiled briefly, then continued, „Now, about your future... I was thinking of a small royal observatory, just a bit south of here? That way, you and your friends can stay close to the stars. Perhaps you could even keep launching model rockets, just to refine-“

But Wilhelmina was already walking away, towards the exit. Realizing this, Celestia stopped halfway through her sentence.

„Director?“ she repeated, evidently puzzled, „Did you have a better idea in mind, then?“

„Yeah,“ she smirked, opening the door. Stepping through it, she glanced back at the Princess:

„We fight.“

And, just like that, she slammed it shut.

Chapter 13

United Forever in Friendship and Labour...

„Zvez, gimme a hoof here, will ya?“

With a quick nod, Zvezda left the plans she was studying on the floor of her office, then opened the door and trotted over to where Sara was standing. Or at least, attempted to, as her new labcoat almost immediately snagged on a jutting piece of metal, got stuck, and propelled her with great force straight towards the ground.

As the workshop around her exploded in laughter, Zvezda slowly got back on her four hooves, then silenced the assembly crew with a stern gaze:

„Honestly, girls! I'm gone for a week, and everything goes to hay!“

The workshop around her was, indeed, in a state of absolute chaos; which was surprising, given its sheer volume and size. Nevertheless, her friends had managed to circumvent that setback whilst she was gone, and had gone ahead to fill every square yard of available surface area – floor, walls, *and* ceiling – with cables, rivet guns, boxes of spare screws, soldering irons, large segments of pipe, numerous pressure vessels,

electronics components, and many other things Zvezda couldn't even begin to identify. Trying to navigate it was like cutting one's way through a jungle.

„Who was responsible for the organization here? Huh? Huh?“ she demanded, pushing away cables that hung down from the ceiling like vines, „And whose idea was it to leave all this until after I came back?“

„Look, we tried to clean it up, honest!“ Sara protested, gesturing to the components all around, „But the stuff just kept *piling in*! Every day, we got four more boxes arriving from some new workshop we've never heard of before!“

„So, you hung it on the ceiling?“ Zvezda asked in disbelief, staring at a small cobweb of electronics – quite literally, it was a circuit of coils and wiring so densely tangled, it stuck together despite not being soldered *anywhere* – menacingly hanging from one corner of the room.

„Well, we had our hooves busy just getting it through the door fast enough,“ Blues shrugged, hovering near the ceiling of the hangar as she tried to attach a heavy glass condenser to a badly-machined fitting near the capsule's control panels. She was holding it in such a haphazard manner, it came as no surprise when it slipped from her hooves not two seconds later, and shattered loudly against the floor, momentary electrical arcs sparking through the air as bubbling yellow acid and shards of glass splashed absolutely *everywhere*.

Zvezda did not react. She simply stood there for a few moments, staring in utter shock at what had just happened, letting her thick goggles, helmet and labcoat silently fizzle as they absorbed the blast. Then, she suddenly burst out laughing, and the rest of her friends followed. Appleloosa was an interesting experience, sure enough. But it was good to be back home.

„You ponies are utterly insane!“ she announced towards the heavens, grinning widely, „But that's why I love you. Come on, let's get this stuff organized and back on track.“

Her friends nodded back eagerly, and Zvezda began supervising the lengthy process. Proceeding systematically, from the top of the room towards the bottom, she commanded her little team: Sara levitated the smaller and more delicate electronics, while Blues and Terra lofted the heavier piping. Meanwhile, Zvezda herself scurried all around the room, clearing up space for the other ponies to deposit their cargo. Soon enough, several neat piles began forming in the four corners of the room; one for the atmospheric regenerator, one for manoeuvring thruster piping, a shelf for the control electronics...

As the three mares were straining to carry one of the heavy double-walled nitrogen tanks across the room, however, a small speaker in the manager's office suddenly crackled to life. Zvezda first ensured that her friends lowered the heavy, yet delicate pressure vessel to the ground safely, then gestured them over for a listen.

„...I repeat, this is extraordinary announcement from Director herself,“ the Commissar's voice finished, then the little box fell silent for a few seconds. Zvezda used the time to anxiously glance around at her friends: Everypony knew the Director had been gone for the past few days, fighting things out in Canterlot. The rumours over the breakfast table were so wild and varied, she couldn't decide what to believe. Now that she was actually here, what news would she bring?

„Red, is this thing on?“ came a hushed whisper, followed by a slightly embarrassed clearing of the throat. „Ponies of Cape Coltaveral. My comrades. This is your Director, Wilhelmina Brown, speaking. As you are no doubt aware, the Assembly had just passed a new proposal concerning our facility yesterday. After a lengthy debate...”

„Come on, come on, just get to it!“ Blues snapped at the little speaker, fidgeting around impatiently.

„I bet we're getting a paycut.“

„Stop your worrying,“ Terra waved her hoof, „You've heard Celestia's huge speech all those weeks back. She'd never let such a huge thing get cut, not after-“

„Shut up, shut up! I can't hear!“

„...has been cancelled.“

„*What?*“ Zvezda shrieked, looking up at the other ponies, unsure whether she should be confused or shocked.

„That can't be right!“ Sara rolled her eyes, then faced the two pegasi, who were now twittering excitedly to each other, „Shut up already! We can't even hear what's going on!“

„I know this must come as a shock to a great many of you,“ Wilhelmina's slightly garbled voice continued through the speaker. Even through the distortion, however, Zvezda could hear her voice was shaking. „The things many of you had done for this project have been, and I do not use the word lightly, incredible. The constant overtime, the sheer effort and strain, and the willingness to sacrifice your own safety for a reach at the stars... no ponies have ever given as much to a mere industrial project as you lot have. Which is exactly what makes my next words all the harder.“

Even Terra and Blues have stopped their chatter now. Everypony was staring at the small metal grille of the speaker, with no idea of what would come next. Meanwhile, a conflated series of emotions ran through Zvezda's heart; she had no idea *what* to feel. Over the past year, this strange place, the amazing things they were doing here, all of this had become an everyday occurrence to her... and now it would come grinding to a halt, just like *that*? What the hay was supposed to happen now? Rocket engineering specialists weren't exactly in high demand around Equestria. Where would she *go*? What would she *do*? She didn't even-

„Comrades,“ Wilhelmina's voice stuttered, „Some of you, some will just shrug and carry on. For many of you, this is just a job. Just an annoying eight hours a day that you spend, to feed and clothe your family. This speech, then, isn't for you. It is for all the dedicated ponies who had sacrificed so much for this project. Who truly *believe*.“

„As I said, I hate what I have to ask of you, especially after you've all given so much. But, look at your own work, now. Look at the things you're carrying in your hooves, that are lying on the ground around you. Think back to what was there, over a year ago. Probably a hammer, or perhaps some protractors... but now, there's armour plating that can bear the full brunt of dragonfire, and survive. Computeronic circuits, which can carry out an entire five operations *per second*. Combustion chambers, that can carry one hundred tonnes of rocket ten times above the limit of feeble pony wings. And who has made all of this? It was you, comrades. You alone.“

Though not quite sure where this was going, Zvezda couldn't help but nod along to the Director's speech. Glancing up from the speaker, she examined the steel colossus towering at the middle of their concrete workshop. A giant metal skeleton, vaguely resembling a dragon head, both in shape and size; assembled more precisely than the finest locomotive, cast more purely than the Princesses' golden crowns. She looked down at her earth pony hooves. Four simple things, quite devoid of magic, or any other powers... and yet, what have they made!

„You have already made the impossible happen, a thousand times over. We have all gone so far... we *cannot* give up now. No matter what a few

haughty nobles say. After all, all they could ever do was cut off our funding! Look around you, now, the testing racks and prototype beds already there; it is *almost* enough to make a full rocket.“

„Is she crazy, or she crazy?“ Terra pipped up, only to be quickly hushed by Sara.

„And it is not like we are completely without allies,“ the Director continued, „Mr. Skies?“

„Hello, everypony!“ came an enthusiastic shout over the speaker, „And especially hello, my little Cherry! I hope you're doing well!“

Zvezda couldn't help but giggle to herself, trying to imagine her friend right now, surrounded by all the other equenauts. She must be so embarrassed!

„Anyway, yes. As of yesterday, *Skies Precision AG* is no more. Nationalised, every single bit of it! Two hundred years of a fully-independent family business, now gone way down the drain!“

Whaa? Things seemed to be happening so fast today, Zvezda's brain was not keeping up. At all.

„I've kept a bit of the money for myself, sure, just enough to get by, but the rest is all yours! So make sure you don't spend it all on drinks! Wilhelmina?“

„I think I speak for all of us, Mr. Skies, when I thank you from the bottom of my heart for what you have done for us today. Without you, we'd be finished. Simple as that.“

So there's a hope after all?

A new voice sounded on the speaker. Zvezda could distantly place her as one of the other Chief Designers, but wasn't quite sure which:

„But even with this great sacrifice, there's still a problem. You must realize, ponies, rockets are *expensive*. Incredibly, amazingly, breathtakingly expensive. And even though we can recycle half of the equipment from what we already have, there's still that other half left. As Wilhelmina said before, we feel bad of asking this. But if we want to succeed, all of us have to make sacrifices, simple as that. Therefore,“ there was a brief pause, and everypony leant in closer towards the speaker, not even daring to breathe, „Effective today, all of your wages are to be indefinitely suspended. Janitor, doctor, equenaut, it doesn't matter who you are, we just can't afford to pay you.“

As the shell dropped, not even Zvezda could resist a brief gasp as she glanced around at her friends. She found them all in similar states of shock and surprise. *Sure, sacrifice's one thing. But this?*

Wilhelmina, no doubt anticipating their collective reaction, quickly stepped in again:

„I realize that, for many of you, this will be the deciding factor. You all have families to feed, children to support through university... nopony should have to feel any loyalty towards our facility. Nopony will be shamed if they leave. It is merely a job, after all. But, before you decide, my friends, I urge you to think of what we've done so far. Of how little is left, of just how much we can achieve. Just a few more months, comrades! A few more months, and this will all be over. Think of Mr. Skies, and his family business. Think of-“

With a brief flash of magic, Sara disconnected the Director's impassioned speech halfway through, leaving Zvezda and the two pegasi looking at a dead speaker. They turned around to look at her; but the unicorn simply stood in the door of the manager's office, silent, staring at the workshop beyond.

„Work for free?“ she suddenly uttered, setting out towards the ship,
„They expect us to work *for free*?“

„Sara-“

„Shut up,“ she snapped, then slowly looked over the length of the skeletal steel frame, „All the stupid overtime, all the damned menial labour, and they want me to work for no money! Our family shop's almost bankrupt, we're halfway through renovating our house, and they want me to work for free?“

The unicorn levitated a few insulated cables out from a nearby shelf, then began spinning them around the capsule:

„I bet there's a thousand of these stupid things we have to connect. Stupid, fiddly, little things... each takes half an hour to get connected just right, and they want me to put a thousand of these together, out of *sheer good will?*“

Zvezda stared at her friend as she spun the cables around the room at an ever increasing velocity. Behind her, Terra and Blues peeked out from the office door, continually flinching, not daring to speak in case the unicorn would lose her control and send the heavy cables crashing through the walls.

Quite abruptly, they were all stopped in mid-air, then began slowly approaching the Star Walker, each from a different angle. As they drew closer, they bent and angled, conforming to the complex structure and manoeuvring around obstructions.

„Zvez, where's that tape?“ Sara demanded, speaking in the same voice as before, concentrating as she fitted the high-voltage cables carefully around the bare metal skeleton. Zvezda stood still, staring at her.

Seeing her not respond, the unicorn turned around angrily:

„Get me that stupid tape!“ she shouted, „If I'm gonna be working for free, it's not going to be on stupid overtime! Hurry up!“

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„You *sold* it?“ Cherry asked, standing in the open doorway of the chief designers' office, and still quite stunned from the recent revelations, „Like, all of it?“

Her father nodded enthusiastically as he paced around the small meeting room, glancing at the blueprints and sheets filled with numbers that were strewn about everywhere. Around him, in the little free space the room offered, the designers themselves worked steadfastly, going through calculations and looking up reference values in countless thick binders.

„But, wasn't it like doing really well?“ she insisted, advancing up to him, „How are you gonna pay for Rosie's college now? What about-“

„Cherry, stop worrying about these things!“ he beamed, lifting his head from the sketch of a rocket engine, then taking to the air and reaching his fore hooves out for a hug, „Daddy's worked it all out before selling the silly thing. I've made sure to keep enough to pay for everything. You don't think I am stupid, do you?“

„Of course not!“ she quickly retorted, accepting the hug. Still, the concerns multiplied in her mind. „But what about the-“

„Look here, sweetie,“ he cut her off, withdrawing the hug and proceeding to look her straight in the eyes, „I've had so much money lying around, I

didn't know what to do with it! Every day, I'd get up in the morning, and my butler would inform me how many millions we've made only through breakfast. It got to the point that everything became just *numbers*. Virtual things, with no impact on my actual life. And what do you think I care about more: Having bigger numbers, or seeing my daughter happy?“

„Dad,“ Cherry whispered, trying to fight back the tears, „You don't even know if it is going to be me! I told you, the other ponies are so much better at this. You've got Bliz, and Ala, and Dash, and-“

„Come on, now!“ he ran his hoof through her mane, just like he used to when she was little, „You know as well as I, all it's gonna take is one success. One success, one pony in space, and the money will come flooding right back.“

„Not to mention,“ Lyuka entered the conversation with a stifled cough, „We just got resignations from Ala and Chasse, with Skyflare adding she's 'seriously considering' one. Basically, that just leaves Dash, Shepard, and miss Skies here. One out of three isn't so bad a chance, is it now?“

„See?“ he smiled at her, „I'll get to watch my little Cherry fly above the skies, no matter how long it takes!“

„You're the best,“ Cherry whispered into his ear, then completely broke down. She leant her head against his neck, and let the happy tears flow, not even caring any more.

*Best. Dad. In. History.*

The tender family moment lasted for a few moments longer, before it was broken by Sequine:

„What now?“ the white unicorn asked, looking up from her stack of notes.

„That's a very good question!“ Mr. Skies exclaimed, suddenly tearing away from Cherry and, landing back on the ground, marching across the room to begin checking up on every Chief Designer in turn, looking over their shoulders as if to double-check their calculations.

„Your donation was huge,“ Wilhelmina slowly began, frowning as she crossed out several lines of equations and restarted her sums again, „And we've got a lot of equipment already on order. Even then, we can't possibly go through with our original plan. There's barely enough to launch one rocket, nevermind five!“

„Well, surely then, we just launch the one!“ the pegasus grinned, „That's all we need, no?“

Lyuka muttered something incomprehensible underneath her breath, then looked at him, „There's so many things we still haven't tested: Staging! Extra-atmospheric performance! Even the liquid engines!“

„You have all these calculations here,“ he replied, gesturing towards the metric tonnes of ink and paper that littered the room, „And the best engineers in Equestria. Don't you trust your own designs?“

„Look, let me put it this way,“ she sighed, then flew up to him, „When this thing is finished, it's going to be a little tin can – perhaps with *your own daughter* inside – wrapped in two hundred kilos of explosives, sitting atop sixteen tonnes of liquid high explosive, suspended above ninety *more* tonnes of explosive, held together by a staging ring *made from* explosives, and steered by the most temperamental computeronic system this side of existence. Do you really want to risk lighting all that off, in front of half the ponies in Equestria, *untested*? Bearing in mind what happened the last time we tried just that?“

„Look, I get that it blew up, alright? And let me tell you, saying this isn't any easier for me than it is for you. Celestia knows how much I love my little Cherry,“ he glanced in her direction, and Cherry's heart melted again. „But look at the numbers. We can either launch a test rocket, or a real one. It's your call.“

His absolute announcement made the chief designers pause, and turn back to their calculations, perhaps in some meagre hope of cutting some costs somewhere and making all the money work out. But of course, there was no such way. Cherry looked at them work for a while, then stepped forward:



„Listen, Director, I know you want to keep us safe,“ she began, making Wilhelmina look away from her notes, „But let's face it. I didn't sign up to be safe, and I guess the others didn't either. And let me tell you, a fiery end atop a hundred tonnes of burning rocket? It's a lot more awesome than freezing to death during a stupid training exercise.“

The reminder of their first near-disaster made the designers pause for a while longer. Eventually, Wilhelmina looked around the circle of present ponies.

„Well, what do you *want* us to do?“ she asked, „Lyuka's right. There's simply too much we don't-“

„Actually, since there is *so much* discussion,“ Sunny suddenly interrupted, voice dripping with sarcasm, „Let's put this to a vote! Everypony up for this absolutely suicidal, all-or-nothing desperate attempt that will most likely blow up on the pad and take everything we've ever worked for with it, along with all our loved ones?“

Cherry waved her hoof enthusiastically as she hopped on the spot, much to Sunny's apparent chagrin. However, her spirits soon dropped as she noticed that nopony else was joining in; all the chief designers were just staring at her in contemplative silence, along with even her dad.

„Come on!“ she urged them on, „It's not like there's much choice, is there?“

„There is always a choice,“ Wilhelmina uttered solemnly with her eyes fixated on her notes, almost too quiet to hear, „And it is not mine. I cannot, in good conscience, make a decision which I *know* will almost certainly lead to another pony's violent death. I simply cannot. Without all the prerequisite test-launches, the chances of success are simply too low.“

Cherry waved her wings in front of the Director, „Um, hello? I've got these! If anything happens, I can just pop open the hatch and fly out of there!“

„What if the accident occurs ten thousand hooves above the surface?“ Wilhelmina argued, still refusing to look Cherry in the eyes, „What if something goes wrong during re-entry? The hatch doesn't open? The rocket explodes on the pad?“

„What if I choke on a berry eating lunch?“ Cherry quickly fired back, „As far as stupid deaths go, a giant burning rocket's pretty damn cool. And even if-“

„Now, now,“ her dad rapidly interjected, cutting her off before she could get to the *really* morbid stuff, „What's all this talk about dying? We're gonna make it, simple as that!“

„I wish I could share your enthusiasm, Count, I really do,“ Wilhelmina smiled sadly, „But the problem is, we don't even know what can go wrong! Last time we tried a launch, we never even guessed a mere ignition delay

could destroy everything, and that was with just five boosters in the first stage. The orbital rocket will have nine!”

„And a second stage, with a completely untested liquid engine,” Lyuka added.

„And I don't care!” Cherry waved her hooves around again, „How many times do I have to tell you?”

„Miss Skies, with all due respect, you are not only one to decide,” Redstone snapped, „It might not even be you in that capsule. Or are you talking for others now, too?”

„Listen here, mister,” Cherry snapped, relishing in the feeling of finally talking down at her professor, „Out of the famous Equestria Seven, four've already resigned. Which means it's gonna be either me, Bliz, or Dash. And if you know either of those two, you know damned well how they'd answer that question!”

Surprisingly enough, Sequine used that exact moment to toss an old magazine onto the table, one she had dug out from her enormous pile of notes. And on it, right on the front page, posed Rainbow Dash, announcing her sheer commitment to the Programme in bold and flashy font. Seeing the page, Cherry winked at the unicorn. It was nice to see at least one pony here was supporting her.

„Well, yes,“ Wilhelmina sighed, shaking her head as she stared at the magazine, „But suppose we do try it, and then it all blows up on the pad. How do you think we would feel, knowing we literally signed your death warrant?“

„But that could happen anyway!“ Cherry insisted, wings fluttering as she banged her hoof against the table in frustration, „No matter how much testing you do, rockets are *never* going to be perfectly safe! Like Lyuka said, it's always going to be ten billion tonnes of explosives, sitting on even more explosives, no matter what you do! So we might as well try!“

„Tests won't make it *safe*, I give you that. But they will make it *not suicidal*.“

That cut the discussion short again, as Cherry scrambled to find a workable counter-argument; while she worked, however, she couldn't help but notice the conflicted, frustrated looks on the chief designers' faces. They *all* wanted to do this; this was the moment they've been waiting for ever since everything began. But they couldn't just justify risking another pony's life for that goal, not even if that pony didn't actually mind. It really was all quite stupid.

*But these things always are.*

In the end, it was Redstone, surprisingly enough, who came up with a solution:

„I suppose,“ he hesitantly began, „Since most of failure scenarios – avoidable ones, of course, not heatshield failure or stuck hatch – involve rocket blowing up on pad, we could just install pressure sensor into base of rocket, and link it directly into capsule electrics. If accident does happen, capsule immediately separates and fires re-entry engines, which carry it away from explosion.“

„But that assumes the system can react quickly enough!“ Wilhelmina protested, still visibly torn between her dream, and the cold, harsh consequences, „And what about all those other failure modes?“

„Best we got,“ Sequine noted, then levitated up a pencil and began writing down some numbers. Cherry had no idea what they meant, but, judging by the subtle nodding of the other designers, they probably were guesstimates of just quick everything could happen.

The other designers looked at the final answer, then at each other, sighed heavily one last time, and the ensuing vote was unanimous; if somewhat hesitant. Smiling in satisfaction, Cherry nodded, then sat back and watched her father quickly take over:

„Let's get this rolling, then! First thing on the list, do we need to order any fuel? We'll need a good hundred tonnes in total, like you mentioned, so I hope we-“

„Fuel's cheap,“ Lyuka shrugged, „We've already got the plant set up. All we need is some ammonia, bleach, a few wagon-loads of sulphuric acid, and we're good to go.“

„Ah, excellent! Indeed, you are right,“ he noted, looking over a cost report lying on the table, „Right, next up is the control computer. How's that coming along?“

„Slow,“ Sequine spoke up from across the table, „Endless loops. Too many branches. Huge mess.“

„Namely, there is issue of making control program fit into memory,“ Redstone added, scanning through some more of his notes, „Especially, we have problem with branching tables. Currently, even after optimization, prototype still requires minimum twenty b-decks. Physical computer allows sixteen.“

The pegasus curled his brow for a while, briefly thinking about the complex issue, then simply burst out laughing:

„Right! Sorry, I can't help with any of that; I don't even understand half those words! But it's just a thinking problem, right? Even if we threw it twice as much money, it wouldn't get solved any faster.“

„Right,“ Redstone nodded, and it was off to the next column.

„Ah, of course, the liquid engine. How's that coming along?“

„A prototype is on its way right now, arriving by rail from the *Equestrian Dynamics* plant in Manehattan,“ Lyuka began, „However, seeing it's the very first full-scale prototype, it's probably going to fail spectacularly the moment we light it. I estimate-“

„Hang on, I just realized something,“ Redstone suddenly interrupted Lyuka's report, then gestured towards a line in his notes, „Since we are removing all automation from Star Walker anyway, we can completely cancel order LK-5. That frees up enough money to buy one extra 'Sara' stage. And seeing we already have surplus fuel...”

„Hey, you're right!“ Lyuka exclaimed, looking over the page for herself, „That way, we can make at least one test launch! Not a big one, sure, but at least we can try the staging. Of course, we're gonna have to cut some *big* corners on that one. Use a dummy for the second stage-“

„But that's brilliant!“

Slowly and inconspicuously, Cherry withdrew from the room and closed the door after herself, leaving her dad alone with the designers, letting them excitedly discuss all the really super-important – but equally boring – details by themselves. This was management stuff, not piloting; and the less she'd have to suffer of it, the better.

As she left, however, she smiled to herself. *He's had that spark in his eyes today*, she noted, thinking back to what just happened, *The one he*

*hasn't had ever since Skies AG finally bought out its last rival and the job lost all of its challenge. Running a Space Programme with next to no money, and very little support? Must be great fun for him!*

*Oh, dad, will you ever change?*

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Too much was changing, too fast. Once accepted truths were now just memories, and old customs were in flux. Nothing could be relied upon any more. In this time of uncertainty, Wilhelmina subconsciously fell back to safe tradition; her customary afternoon walk through the entire Cosmodrome.

It started off innocently enough, a simple decision to leave her office for a few minutes, just to clear her head from the endless budgetary calculations and get some fresh air. However, before she even realized, her legs had already carried her halfway along the well-trodden path to the equenaut complex; and from there, it was much easier to just finish the rest of the walk, than turn around and go back again.

„Ah! There you are, madam Director!“

It was that doubly-blessed, thrice-damned Mr. Skies, standing in the middle of the path, trying to decipher a confusing signpost at a nearby crossroads and looking quite decidedly lost. Wilhelmina wasn't surprised; the Cape was nothing but rows of identical, sand-blasted concrete bunkers

from beginning to end, and unless one knew it well, it was all too easy to get lost. Always in the past, though, one could just ask one of the dozens of ponies that never ceased trotting along the paths, carrying expensive components and veritable mountains of paperwork... but today, the roads were all but silent.

Even with all this, however, seeing the fiery red pegasus wave energetically before proceeding to fly over, she couldn't help but roll her eyes. She had really been hoping for some quiet, to think properly about what had just happened. And with this stallion around, there never was quiet.

„Let me say, am I glad to see you!“ he laughed, landing softly on the ground beside her, then smoothly transitioning into a trot, „I was hoping to try inspecting the laboratories myself, you see, but that's obviously not going to happen. Would you mind terribly if I joined you?“

„Of course not,“ Will lied, forcing a smile, „But if you want to see the labs, they are all the way over there, on the opposite-“

„Oh, I don't really mind what I see!“ he boomed, still enthusiastically examining the imposing bunkers all around, „As long as it's something! Where are you going, anyway?“

„Just the equenaut complex,“ Will sighed, kicking a rock off the path.

„Splendid! I've always wanted to see where my little Cherry works!“

Will nodded curtly, but otherwise didn't respond. The conversation dropped off there, and she concentrated on watching the ground pass slowly below her hooves, while Mr. Skies took in the alien scenery all around, lengthily examining every crane or pump assembly they passed. Unfortunately, not one slowed him down enough to ever leave Wilhelmina alone.

Why do you hate him so much, anyway? Without him, that'd be it for the Programme. Farewell twenty years of work, goodbye Dream! He's not all that bad, is he?

But that's exactly it, isn't it? she mused, looking on as he examined the scrubber plant's row of steel furnaces, housed inside a rickety metal shed right next to the assembly workshops, *There's nothing wrong with him!*

For Celestia's sake, this stallion was a factory owner! An industrialist! Up until yesterday, he has owned seven weather factories and who knew how many steel mills, each employing entire thousands of ponies, and heading a two hundred years old business. Even amongst the rich, he was the most hardcore of the bunch.

So, how on Equestria could he be that... *normal*?

„An interesting set-up you've got going on here,“ he meanwhile commented, catching up to Wilhelmina once again after she rounded a corner, „Heavily... err, what's the word... *distributed*. Supply bunkers and

workshops on the very opposite sides of the facility. Is that in case of uncontrolled explosions?”

„Not really,“ she absent-mindedly confided, smiling to herself. That exact explanation was what they always used on the government inspectors and journalists. But seeing as he was neither, she might as well tell him the truth, „Let's just say, when we were moving in, no pony had any idea what to do. So every time we needed more space, we just took the nearest bunker, whatever it was; no planning or anything. Obviously, that ended up in this huge mess, and now you have to trot halfway across the site just to get some extra wires.“

„Oh,“ he raised his eyebrows as he looked around again, then suddenly burst out laughing, „But when the reporters asked, you called it a 'revolutionary workflow process', am I right?“

She nodded subtly, and the bout of laughter intensified even further. Judging by this reaction, Wilhelmina guessed he had done the exact same thing himself, at some point in his past; and imagining this, she couldn't resist cracking a smile of her own.

Noticing she was smiling, however, she quickly stopped herself, then fell back into deep thought. This exact thing was what was bothering her so much here. Talking to him was just so damn normal. He appeared relaxed and easy-going about everything. The stallion had just invested his entire fortune into this burning project, and every hour he was finding more and more things wrong with it; surely, he should be just a *little* more concerned?

„Anyway, as I was being lost all around the place,“ he began again, completely dropping the old topic, „I thought of a great way to make some more money: Merchandise! Dolls of the equenauts, action figures, model kits, that sort of thing. Won't pay for the rockets, obviously, but should at least help with some of the food and power costs. Honestly, I can't believe you hadn't thought of that earlier...“

„I think Lyuka suggested something similar at some point, but Canterlot refused to fund it. Ticket sales for the launch were about as commercial as they were willing to get. The equenauts had a few magazine and photo deals, yes, but the money went to them, not to us.“

„Ah! Government agencies, am I right?“ he chuckled, and Wilhelmina had to seriously resist the urge to shout at him.

„Well, you have to give it to them,“ she calmly spoke out in their defence, „Having all this merchandise just makes the entire thing into a joke, doesn't it? I mean, toys and model kits? We might as well paint the entire rocket in advertisements!“

„Who cares how it looks?“ he shrugged, „The money will go towards getting the real science off the ground. That's a worthy goal, isn't it?“

„Yes, but...“ she trailed off, seeking an argument beyond simply 'it feels wrong'. For a brief while, the two continued along the path in silence, slowly coming up to the massive blast-doors of the equenaut complex.

Unnerved, she quickly glanced around, trying to look at something different in an effort to dispel her jumbled thoughts. Unfortunately, the one thing she did catch in the corner of her eye were the last few outbound passenger balloons and air-ships, shrinking into the distance against the bright azure sky as they left for Manehattan, and other ports in Equestria. Despite her never-ending respect and understanding for those hundreds of ponies that had decided to leave after the announcement, she just had to grit her teeth. *Traitors.*

Advancing through the heavy metal hatch, they continued along Wilhelmina's traditional route and soon entered the simulators room; a massive underground hangar, the first stairway down from the entrance. Inside the undecorated concrete room, two giant boxes of metal balanced on sets of heavy pistons, bundles of thick cables streaming from their sides and running along the floor to the row of whirring computeronic clusters and flashing control panels positioned near the staircase. On an usual day, both of the simulators would in full use, and the other five equenauts would be queuing nearby, exchanging friendly jibes and banter.

Only one of the two pods was in active use today, however, rocking back and forth as the base pistons angled the capsule all around. In fact, looking around, Wilhelmina noted the entire hangar was almost entirely empty; and was again reminded of just how much things had changed, never to come back. No tech-ponies were darting between the cables in desperate attempts to keep things running, no secretaries and stray journalists were admiring the resting pilots. Just a lone comrade was still

here, standing at the controls of the far left panel, watching idly as some dials flickered back and forth.

Mr. Skies seemed unfettered by this disheartening emptiness, however – possibly because he had never seen the room back when it was alive – and enthusiastically approached the single engineer with a big smile on his face:

„Greetings!“ he began, startling the poor pony and proceeding to shake his hoof vigorously, „Management inspection! I hope you don't mind too much.“

„It's- it's alright,“ the engineer – a chestnut earth stallion in his early thirties, with a short-cut mane – stuttered, obviously quite ambushed by the pegasus, in the way many often were. The manager seemed to pay it no attention, however, and immediately began scanning the myriad of glowing instruments that played across the controls panel.

„So, this is the simulations room, is it now?“ he nodded to himself, then gestured towards the tumbling metal box a few hooves away, „And what are you simulating there, then?“

„Re-entry procedures, sir,“ the pony reported, still glancing around nervously; it was only upon seeing Wilhelmina that a look of relief washed over his face, and he was able to continue with new-found certainty.

„Proper orientation of the capsule is the most critical part of a successful de-orbit burn, and was *supposed* to be managed by computer. However,

since that's been apparently cut now, we're trying to figure out exactly how are we supposed to accomplish that manually. For free, mind you.“

His voice was just dripping with resentment towards the chief designers; and Wilhelmina could not blame him one bit. Just the fact he was still here was commitment enough. Mr. Skies obviously picked up on that too, and smiled again as he patted the stallion encouragingly over his shoulders:

„I like your style! Tell me, worker, what's your name?“

„Geist Silbervogel, sir.“

„Geist!“ he repeated to himself, as if trying to remember it, „A good name! And let me tell you, Geist, the Cosmodrome's incredibly lucky you hadn't left us!“

„Well, I couldn't exactly do that now, could I?“ the tech-pony groaned in response, „After a million sleepless nights I finally get the simulator working, and Canterlot decides to cancel it? Hay no! There's no way I'm leaving before I get at least *some* use out of that infernal thing.“

„That's the spirit! Stick it to those stuck-up nobles!“

„Geist?“ suddenly came a different voice, this time from inside the capsule. He quickly flipped a few switches, and there was a hiss of escaping air as the pistons steadied themselves and settled the giant metal

box of the simulator pod down to a stable platform. Once that was done, Rainbow Dash stuck her head out through the black entry curtain.

„This thing's useless!“ she shouted, gesturing with her hoof to the darkness behind her, „I have no clue which way around I'm rolling, so I just end up wasting all the thrusters just to spin even faster! I just can't stop it. It needs to have way more fuel.“

„Well, it can't! And I told you, use the IMU!“

„Easy for you to say, when it's on the opposite side to the window,“ she chortled, running a hoof through her mane, then added „Also, it gets stupid hot in here with everything running. Get me another fan!“

„Yes, miss Dash,“ the tech-pony grumbled, then took a sarcastic bow as she returned back to her capsule for another go. „If you excuse me,“ he hushed, turning away from the control panel, „I mustn't keep the Princess waiting.“

Mr. Skies waved him a friendly goodbye as he galloped away and up the stairwell, then turned back to Wilhelmina:

„Quite an interesting fellow! I must say, I was worried out of my mind when you first suggested we suspend all the wages. Glad to see I was proven wrong!“

Wilhelmina was about to snap back with a biting comment, but Rainbow interrupted, sticking her head out from behind the curtain once more:

„Hey, bosses! Can you restart the simulator? I want to try out a few more things with the roll control. This thing's way too much fun!“

Wilhelmina nodded back, then walked over to the controls panel. Stopping a few hooves before it, she looked back to Mr. Skies:

„They're amazing, I'll give you that. I just hope there'll be enough of them left. “

„Ah, but there will!“ he enthusiastically exclaimed, looking up from the restart console he was studying, „The way you built these ponies up, Director, it really is quite something... I wish I ever had a workforce half as loyal!“

„Well, there's a few things money just can't buy, aren't there?“

The smile disappeared right off his face. *There*, Wilhelmina smirked to herself, *Finally some reaction!*

„Madam Director,“ he stalwartly began, his voice changing quite abruptly as he turned away from the flashing controls panel, „I have been *trying* not to judge you based on your reproachful comments, but that is one step too far. Despite my best attempts, you still appear to hold some sort of irrational grudge against me. In my experience, these just tend to poison

every kind of working environment, be it just a research lab, or even your family. So, I would like to know exactly what your problem is. *Now.*“

Despite the abrasive tone, Wilhelmina remained silent, trying to figure out a way of phrasing her sentence that didn't sound completely insulting. The pegasus obviously noted her silence, and, drawing closer, curtly added:

„Be as frank as you like.“

Frank. All this time I've been trying not to scream at you, and you want me to be-

Well, alright then.

„That's the thing!“ she suddenly released the floodgates, screaming at the ceiling as she began pacing around, „I don't hate you at all! You gave us support in the Assembly, millions with no chance of a return on investment, you've been so friendly this entire time! You're about the best thing that's happened to us ever since that accursed accident!“

He let the echoes off the hangar walls die down, then angled his head. „But?“

„But I hate *everything you stand for!*“ she continued, suddenly turning to face him, „All that plucky optimist individualism, manipulating politicians for private interest, carrying on against all odds... just imagine *the spin* the

papers are going to put on this when they see what's happening here: They'll absolutely love it! 'Private investor leads Equestria to the stars', 'Without the goddess, progress marches on!' And then come the opinion articles, the lobbying... 'Seeing just how much private industry can give us, why does the state feel the need to stifle them so?' The outcry's going to be such a complete *mess*, Celestia might just cave in and deregulate everything. And then boom! Bye-bye lovely, lush green Equestria, hello smog-poisoned, oppressive Industria! This is exactly what Trottski's been warning us about, all this time, ever since the first steam engine got going! That's the whole point behind his book! We've got such a brilliant society already, and industry's just going to ruin it all."

He did not respond. Finally lowering her voice, Wilhelmina looked down at her hooves, and at the machinery all around, heart still beating rapidly:

"And it's all going to be because of me," she took deep breaths, trying to calm herself, "The one pony who just wanted equality for all, to give the earth and sky races a parity to magic... will also be the one to turn our land into a nightmarish hell. Funny when you think about it, isn't it?"

"It'll never get that far," he quickly began, approaching her closer, "The Princess is simply too careful for that. She hasn't budged for a hundred years of steam, she won't budge because of a few rockets."

"But this time, it's all different, isn't it?" she remarked, examining the giant metal cube of the simulator, with all its silver piping and cables curling around it, and imagining what it would look like to the average rock farmer,

„It's not just cheaper toys or faster travel any more. If we ever reach outer space, without magic, without the goddess, it's suddenly going to be a whole new world. All the ponies will realize the rules have changed, and that anything can go, no matter what the princess says. Imagination will be able to gallop free. And it will do so, in the exact wrong direction. It might take years, or decades, but eventually it's going to happen. And it's going to be my fault.“

Suddenly, she chuckled to herself. „Oh, Celestia... I actually *want* us to fail, now.“

„Just stop worrying of what *might* come in a hundred years. Even if this was likely to happen – and that's a big if, mind you – it's Her responsibility! Not ours!“

Typical short-mindedness. Just like every industrialist! Wilhelmina simply could not believe just how easily he was dismissing all this. „But don't you-“

„Nothing of the sort!“ he insisted, cutting her off, „Listen, you've talked to her. Does she look like somepony without a plan?“

She didn't. Even so, the stallion's words weren't exactly reassuring.

„And even if she doesn't, it's not like we can't avoid all this anyway,“ he suddenly beamed, „Pay a few journalists, a couple of politicians? Should derail everything quite nicely.“

What.

„But you're as self-made as they go! How can you possibly-“

„Oh, it's simple,“ he shrugged, „Even logical! All we have to do is publicise just how dependent we've been on everypony else, and *especially* the Princess. After all, who educated all the ponies in our factories? Who paid for the tracks we used to ship our supplies? Who paid for most of the research? Just point that out from a few independent sources, and the myths will all come crashing back down. It's not like the public likes rich snobs too much anyway. Believe me, it'll work.“

„That's... that's...“ Wilhelmina stammered, not quite believing he had just suggested something like that. *Using bribery and lobbying, their own methods... to destroy them? Seriously?*

„I like it,“ she eventually whispered, smiling warmly.

„That's good, because that was my last idea,“ he burst out laughing, patting her on the back, „Honestly, you're about the same age as me, and still have all the political passion of a college girl! Quite remarkable, that.“

„Hmrf,“ Will snorted, not sure if that was an insult or a compliment. Eventually, she took it as the latter, „I guess I never grew up, then. Never lost my dreams.“

„Good, good!“ he added, and the two fell quiet for a while, each lost in their respective thoughts. Eventually, it was a third pony who broke the silence, poking her head out of the curtain of the simulator's entry hatch:

„Hey, hey! Less philosophy and more simulator resetting! I've been waiting for ten minutes in this stupid thing!“

„Pilot!“ Wilhelmina glanced over, raising her voice at the insolent equenaut, „Watch how you address your superiors!“

That made Dash pause. „But, aren't we all like, comrades here?“

Oh yeah.

Smiling, Wilhelmina saluted the blue mare, then turned to check the long line of control panels again. After spending so much time talking about silly hypotheticals, the point behind it all was far too easy to forget.

There's still a rocket to finish.

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The weeks passed, and then the months. The halls gradually grew quieter as more and more ponies left; faced with ever-harsher schedules for no compensation, even those once counted among the most adamant defenders of the programme eventually packed their bags and left.

But, over time, the river of deserters calmed to a stream, to a trickle, and then died away altogether. And what remained once it was all over, was a truly strange thing indeed; never in her life has Zvezda seen a group of ponies come together in such a way, not for anything. As the cafeteria slowly emptied, the seating arrangements changed: Far from becoming just isolated islands in a sea of loneliness, the ponies all began to eat together. The chief directors alongside the janitors, the physicists and the chemists; even the mathematicians next to the engineers. Now only three, the equenauts also left their dedicated rooms and came over to eat with the rest. Eventually, not even the Commissar himself could resist, and now held a place just opposite Zvezda.

And, as the eating arrangements drew closer, so did the friendships.

„...and the mare's looking at me, right, *absolutely dumb-faced*, and just goes: 'You want *how* many bottles of aspirin?'"

The table collapsed into tears of laughter at Lyuka's story, and Zvezda joined in too. Seeing the success of her anecdote, the plucky designer quickly resumed:

„Oh, we've got *hundreds* of stories like that back from when we were just starting up. Did I tell ever you the one with the potassium-“

„L., no,“ Redstone sternly silenced the green pegasus, looking at her over the brim of his thick glasses, „We do *not* talk about potassium salad.“

„Potassium salad?“ Sara raised her eyebrows, then, looking down at the salad she was just eating, began eyeing it suspiciously.

„Well, yeah, you see,“ Lyuka continued despite warnings, „We were just figuring out how to synth perchlorates cheaply, and I suggested using salt. Sodium chloride, right? So, obviously, I bring home a bucket-“

„Alright, that's about enough, OK?“ Wilhelmina cut the tale short, „That happened once! Once, I got it mixed up, and you never lived it down!“

„Well, what kind of pony puts salt in a salad, *anyway*?“ Lyuka shrugged, visibly amused, and the table burst out laughing once more.

Wiping a tear from her face, Zvezda suddenly remembered the thing that's been balancing on the tip of her tongue the whole morning. Quickly turning to the Director, she spoke up:

„Anyway, Will, speaking of buckets-“ she began, and the table burst out laughing again, „-just what are we supposed to do with that oxy-regenerator case now? Since Sunset's left, there's no way it's ever getting finished. I'd just throw it out, but it's awfully well-machined titanium. Seems a pity.“

„Hmm, I don't know,“ Wilhelmina levitated another piece of pasta straight to her mouth – dining standards were another thing that has all but disappeared since the early days – then hummed to herself, „I guess we *could* just throw it in storage, but you're right, it seems kind of a pity.“



„But don't we need the case in the capsule anyway?“ Geist spoke up from the other end of the table, „Otherwise, what else's gonna hold the backup battery in place?“

„Eh, we can just stick some more tape in there,“ Sara waved her hoof, almost hitting Sequine square in the face, „Tape! Now that's a space-age material!“

„Hear, hear!“

„Here's to tape!“

„But why can't we put it there, anyway?“ Geist replied amidst the clinking of glasses, already finishing up the last pieces of his meal, „It's not like we have to save mass. In fact, it might even be *bad* if we do that.“

Lyuka looked up from her salad, then glanced around the table, „Hey, that's a good point! The rocket can physically fly with less mass, sure, but can the flight computer adjust?“

„Not to mention, first stage's pure solid. You can't throttle solid engines.“

Zvezda curled her brow. *That doesn't mean your argument makes any sense.* „It's just a few kilos! And anyway, we can just stuff more cylinders of Li-O's there to make up the weight.“

„Re-programmation should be quite elementary in either case,“ Redstone commented, still barely halfway through his meal, as he appeared to be the only pony with any table-side manners (or dignity, for that matter) still left, „We have restructured main loop so brilliantly, is beauty to look at! Everything required now is changing one constant, and code adjusts. No more changing everything!“

„Alright, prof, we get you're happy with new your code,“ Cherry moaned, already sweeping the dish off and pulling out her textbook, „But can you *finally* tell us what's going to be in the test? It's only in a few hours, for Celestia's sake!“

„No!“ he exclaimed in his dictatorial manner, „I told you, everything we do this month might be on it. Is all you need to know.“

„But we've, like, done everything this month! Can't you just-“

„No!“

Cherry nodded in resignation for a while, then, finding something in her book, looked at the professor again:

„Even the stupid animal-“

„Yes! Stop asking!“

„Man, I don't get anything from this stuff, at all,“ Dash meanwhile commented, also glancing through her textbook now.

„But sure you do!“ Cherry twittered, „You knew it all yesterday! Come on, what particles in a chlorine atom?“

Rainbow began peeking into her book, as if by instinct, then quickly caught herself. Slamming her notes shut, she began staring into the ceiling. „Let's see, let's see, I knew this! How many protons was it again, silly little blue things... not twenty... not twenty five... *thirty five*? Aha! And thirty five electrons, too!“

„Anything else in there?“

„Nope!“ Dash responded, now with much more confidence in her voice than before.

Zvezda herself just sipped some coffee. She had no idea of atomic theory, and could only guess whether that was the correct answer; but, judging from the brief smile on the Professor's face, it most likely was.

„And can you identify the electrons?“ Cherry pushed further, still staring into her open book. The blue mare closed her eyes, and began rubbing her front hooves against her temples.

„Oh man, oh man, I *knew* this, I *know* I did...” she began, „Let me just-err... well, there's eighteen N-electrons, I think, sitting all nice and cosy inside the nucleus. And, uh, *seven* V's?”

„Exactly!” Cherry exclaimed, „Which means?”

„The rest is O's!”

Cherry responded with a celebratory clap, and Rainbow opened her eyes again, evidently accomplished. Watching all this, Sara leant in closer to Zvezda, and tapped her on the shoulder:

„Aren't all these ponies supposed to be *competing*?” she whispered, „I mean, there's just the one place. Why are they helping each other?”

Zvezda gave her an evil eye, and the mare quickly shrunk away. „OK, OK, just don't put me on dish duty again!” she hushed, and the discussion was thankfully left at that.

„I must say, miss Dash, you are starting to get hang of this! Congratulations!” Redstone now added, having finally finished his pasta while the revision was going on, „In fact, *everypony* is doing better and better. Even you, Geist: Your food was hundred percent edible this time! Great success!”

The canteen resonated with the clapping of hooves against wood, and an embarrassed expression appeared across the tech-pony's face.

„Really now, professor, there's not many ways to mess up pasta.“

„Oh, you never know!“ Lyuka exclaimed, winking in the direction of Wilhelmina, „If you add some potassium-“

„Shut... up...“ she uttered through clenched teeth, igniting yet another roar of laughter from the others, and causing Zvezda to spit out her drink; all over the unfortunate Commissar, as it happened, who thus far had been observing the scene in complete silence.

As she immediately rushed to apologizing, with a tissue in her hoof to clean up the mess, she still couldn't help but smile to herself. The bickering, short-sighted Assembly had certainly succeeded in their original goal; the old Cosmodrome was dead and buried, and it would never be coming back. What had appeared in its stead, however, was a thing beyond anypony's wildest dreams.

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„Bring it up, bring it up!“

Zvezda looked upwards from her sheets, at the scene unfolding in the sand below her. Even though it was already well past ten in the evening, and the desert was quickly growing cold, she felt comfortable as she lay on the vacated rooftop oversight of the storage bunkers, huddled in a thick blanket and sipping from a warm cup of coffee she had brought along.

Meanwhile, the ground below her was awash with activity, ponies straining as they attempted to safely unload a large, canvas-covered cylinder from an idle wagon sitting on the nearby railtracks. Even though the Commissar's stallions were trying their best, the package was obviously very heavy, and had to be helped by some of the facility's better-bodied researchers.

Fortunately, Zvezda did not count amongst those. Seeing Blues and Terra on the ground, lit by multiple halogen lights and sweat flying off them as they stressed their wings to lift the precious cargo into the air, she gave them an overly cheery wave, then sipped from her coffee. Blues, catching the inappropriate gesture with the corner of her eye, mouthed something in response; likely incredibly vulgar, but fortunately too quiet to actually hear. Zvezda just responded with a second wave, this one even more obnoxious than the last.

„Now, now! That's not very nice, is it?“

Spinning her head around, Zvezda smiled as she saw Ray ascend the few last steps of the rickety fire staircase and hop onto the rooftop. In the poor lighting coming from a small emergency lamp above, it took her a while to spot the wide smile spread across his face.

„You know, *you* should be down there, helping them too,“ she chided as he covered the rest of the distance across the flat concrete roof, „Celestia knows, you're *far* more stately than most ponies around here put together.“

Ray's smile first grew even wider as he took the unexpected compliment, but then he suddenly paused in mid-step, and replaced it with a highly suspicious expression. „Hang on. You just complimented my muscles.“

„Yup!“ she smiled, taking another sip of coffee. It was fun watching the look of sheer terror slowly creep up across his face.

„*Please* don't tell me you need your stuff moved,“ he groaned, glancing around, „I didn't travel across half the country to help you haul your pianos or whatever to the tenth damn floor!“

„Relax! Do you even see tenth floors around here?“

„Well, then, tenth floor underground or something,“ he shrugged, still remaining a safe distance away, „Don't think you can trick me, I saw the map! This place's way of a lot bigger than it looks.“

Zvezda put on an evil smile as she stared at Ray, and even sustained it for a few seconds. But when he opened his mouth in a mock gasp, she just burst out laughing:

„Come here, you!“

She shrugged her blanket off as she got back on her four hooves, then took a few steps and nuzzled Ray passionately. After he withdrew again, he looked at her:

„No kiss?“ he asked in a tinny voice, eyes wide open.

Zvezda patted him across the cheek, then gestured towards the ponies working below, „We'll see if that thing works or not. You might have broken it on the way!“

Ray held his pleading face for a while longer, then smiled and looked over the edge of the roof himself.

„Just what *is* it, anyway?“ he asked, settling down on the ground, „All I was told is that it's awfully expensive. Boss himself inspected the carriage five times before letting me drive away with it.“

As Zvezda lay down next to him, she raised one of her eyebrows, „You seriously don't know?“

„I tried to get a peek, but there was an important-looking seal on the tarp, so I didn't risk it. And all the shipping form said was 'Lyuka-R'. Can I have some of this coffee?“

„Sure, just don't spill it,“ she waved her hoof across the piles of papers she had spread out around her, „And from what I hear, it's supposed to be the new liquid engine. Finally doing a test burn today.“

„Liquid, eh? Didn't the last one you tried explode? And *Princess*, is this coffee horrible!“

„I know, I know,“ Zvezda nodded, looking at the cup again, „Will's decided we all drink too much coffee, so she's started ordering this horrible thing to get us to stop. Honestly, two gallons a day's *nothing!*“

„Bleh!“ he exclaimed again, then quickly lowered the cup to the ground, „I sure hope your rockets are going better.“

„They're alright. We're doing nothing 'cept running hundreds of cables now, so it's a bit boring, but it's the last thing left. Like, literally, we finish this, and the capsule's done.“

„Serious? I thought you still had a way to go! I mean, you don't even have the engine tested yet.“

Zvezda looked down at the sand, as the ponies carefully unrolled the canvas and revealed the dull metal cylinder beneath. Unlike the previous prototype – a large sphere of metal, completely covered in mazes of piping and with an enormous nozzle sticking out of the back – this one was a lot smaller, and consisted of just a simple green cylinder that gradually expanded into a nozzle at the back. And that was it; no visible pumps, no byzantine piping, nothing but the absolute bare minimum. As the team below, personally overseen by Lyuka herself, began quickly securing the engine onto a concrete testbed, shortening straps and locking down bolts, Zvezda gulped down some more from her cup – horrible or not, it was still coffee – then nodded:

„Yeah, they've had awful problems with the rocket. Especially that engine. Overheating, burn-throughs, bad reliability... makes me glad I got shuffled over to the capsule when I did! It's funny, because the first stage of the rocket got built ages ago, but this liquid! Sunny just decided to get the fuel tanks started anyway, and make a modular adapter for the engine, just to avoid delays. Whatever design we see works, we'll just stick that on there and launch.“

„Wow,“ Ray shook his head, looking on as more ponies came galloping in, carrying heavy hoses from the fuel and oxidiser tanks a few dozen yards away, „Sounds like a total mess. So much for the shining beacon of Equestrian science, eh?“

„Oh, it is! And that's exactly the problem. No pony here has *any* idea what the hay they're doing.“

The two ponies laughed, and a pleasant silence dropped over the two, interrupted only by Lyuka intermittently shouting orders from down below. Zvezda looked down at her papers again, trying to study them further.

„And what's all that?“ Ray asked, looking over her shoulder, „They've got you working overtime, too?“

„Oh, there's no way I'm doing overtime, not for free! Not even I am that crazy!“ she chuckled, then pushed the papers across for Ray to see, „Just preparing stuff for the next lesson. Seriously, that Ruby filly's insane. I almost have to prepare one class for her, and one for all the other foals!“

„Heh, I can see that happening. The lessons going alright?“

„I dunno,“ Zvezda shrugged, finally finishing her disgusting cup of coffee, „I'm hardly a certified teacher. I mean, I show them stuff, they ask questions, seem to have fun. Not sure if they're learning much, though.“

„I'm sure they are,“ Ray whispered into her ear.

„Connections alright?“ came a shout from below.

„Line one, check! Line two, check! Electrics, go!“

„Preheat running!“

The ponies quickly began withdrawing to a safe distance as Lyuka herself checked over the engine one last time, flying over and carefully inspecting every last bolt and seam on its cold surface. Meanwhile, a steady hum slowly began to mount as pumps and generators began spinning to life all around the test site, building up in pressure.

„All is go!“ she eventually declared, then rapidly retreated behind a concrete wall two dozen paces away, „Ten, nine, eight-“

„You *might* want to wear these,“ Zvezda smiled warmly at Ray, a pair of earmuffs in her hooves, „Those things get awful loud.“

Ray nodded in thanks as he accepted them, then quickly mounted them over his ears. Zvezda then adjusted them a bit more, just to make sure they fit him snugly, then put hers on in the last few moments of the countdown:

„-three, two, one, fire!“

Even through the ear protection, there was an initial bang powerful enough to make her jump, which then steadied itself to a loud roar as the enormous engine began working. Feeling a wave of warm air wash over her, Zvezda quickly removed her blanket, then watched the giant rocket as it screamed at the darkness.

Compared to the brash solid engines they had flown before, this was a very different kind of rocket; a far more focused and discreet one, producing a near-invisible tail of faint blue fire, and virtually zero smoke. But that wasn't the only difference, oh no.

Zvezda blinked a few times to make sure she wasn't hallucinating, then looked at the faint jet of exhaust again. Strange, yet beautiful, geometric *shapes* sharply glowed in the exhaust, some resembling discs, others diamonds, all motionlessly hovering right in the centre of the thin plume. She exchanged a look of amazement with Ray, then looked back at them again. They seemed to be coming from the edges of the flame, slowly picking up in brightness as they approached its centre, glowing yellow and searing white at the centre as they just stood there, right in the middle of all that power.

Zvezda kept staring at them, wonder in her eyes. *Tell me that isn't magic. Tell me.*

Sure, she had seen a fair few flashy shows in her own time. Some of them even far more visually impressive than the simple glowing shapes hovering before her right now. But all of them came from unicorn horns, from enchanted objects and intangible power fields.

The metal cylinder before her, on the other hoof, was just that. A metal cylinder, with a few pipes inside, fed by a pair of steam pumps and held in place by a block of concrete. She could come up to it, she could touch it. If she knew the right equations and had enough money, she could *make her own*.

She glanced one last time at Ray, and the two earth ponies hugged. For her, this was the moment. From this point on, nothing was impossible any more.

All that was left was for the rest of Equestria to realize that.