

Our First Steps

Chapter III – 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 nopony 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.

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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-“

„Who!“ Will clapped sarcastically, „You just fried our country's first Equenaut! But hey, better 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, huh?“ 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.

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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.

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Chapter IV – 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. Meanwhile, the earth mare was quite busy micromanaging her 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 exclaimed 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.

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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.

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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.

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„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.“

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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.

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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 pipped 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.