A Truly Dead Rock

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Chapter 1: Sunset

The pale disk of the sun, slowly being chipped away over the past three weeks, finally vanished over the horizon. In the middle of February, the shadow could first be seen near the horizon out of the sleek glass walls enclosing the city. Through the latter half of February, this shadow prowled around, circling the city as Luna rotated. Slowly but surely, it crept over the bleached grey regolith, turning it black as it went, and started to consume the edges of the city. By the beginning of March, only a sliver of the city remained under the sun's feeble light.

By March 6th, the shadow had moved on, engulfing everything within the tight bounds of the horizon. What the shadow couldn't catch, however, was the highest parts of some buildings. The shadow would continue to creep up and up these shining pillars, but would never reach the tops of all of them. Even at the dead of Lunar night, a few building tops would remain bright like a mountain peaked with a patch of snow. The sun, far gone for almost everyone, would weakly fight the shadow until it could return entirely and with full strength. In the meantime, our artificial suns would have to do.

With that thought, our sector's collection of streetlights decided that it was an appropriate time to turn on. These white lights with a hint of blue in them cast a ghastly glow on the city. They were supposed to mimic sunlight, but they felt more like moonlight. Moonlight from Earth that is. They cast a weak shadow, and one was almost completely left in the dark when

they walked in between two of them. They were a bastion of efficiency, barely any fusion power went into lighting them, but from a human point of view, they provided a foggy atmosphere with the tense feeling that something would pop out of the darkness.

Despite this atmosphere greatly resembling the night, it was 8:13 in the morning; I had to get to school (admittedly I skipped first period for this). Walking a mile and a half through nearly deserted streets in the dim glow of the streetlights was not fun business. Rush hour had ended a little while ago, and all of the kids had gone to school already, so I was on my own stumbling down the street.

Despite living on Luna for seven months already, I couldn't seem to master the walk of a true Lun, instead I looked like a true loon, bounding along and hurling myself almost a foot off the ground every time I took a step. Anyone that walked past me could instantly tell that I was a Terran.

After the novelty of Lunar gravity passed, it became a great inconvenience. Everything felt slowed down like an instant replay or an action scene from a bad VRfilm. Simple things that I took for granted on Earth such as falling water, or going down a flight of stairs had become challenging ordeals on Luna. Any object would take two and a half times longer to fall a certain distance on Luna than it did on Earth. This lengthened many tasks by that factor, making them incredibly tedious.

I reached the school after an embarrassing walk there and looked up at the building. On the street level it was made up of four buildings to allow for moving roadways to pass through. Above that, the buildings connected to form a cohesive cylindrical shape half a mile in diameter. The school inhabited the second floor of this building, fitting K-12 in its massive layout.

I walked towards the left half of the building, as my school was on that side, and walked into the lobby. I found one of the stairwells marked “High School 218” and looked into the contacts scanner on the door to be permitted inside.

To my dismay but little surprise, a message came into my field of view was that read: “One class missed, guardian(s) notified.” My brother was not going to be happy about that. When he and I came back from our respective classes at the end of the day, he was sure to ream me out over it.

Looking at the bottom corner of my field of view, I saw that it was 8:37. I was just in time to hear the bell ring for the end of first period; I had eight minutes to get to my next class.

That class happened to be 22nd Century Skills which was not very enjoyable. The class was meant for the kids that couldn't grasp how to use their contacts correctly despite the fact that they had a K-8 education on Luna. Since I came from Earth, a place ten years behind Luna, and since I came from the New York megalopolis a place ten years behind the rest of the planet, it was suggested that I took this class to help me figure out how to use the technology.

After being given my school issued contacts and spending a week in the class, it was obvious that I wasn’t going to learn anything there. I figured out the controls, and I watched some videos on the contacts amazed by how they were superimposed into my field of view. They were pretty simple to use, and had a lot of intuitive features all able to be accessed with your thoughts and eye movements.

One of the worst parts of this class was the teacher, Professor Chase, who was insistent on us using the title “professor” even though he was a high school teacher. Professor Chase was also very old, probably a late Generation Z-er, as I assumed he was in his 80s.

Despite being the teacher of "22nd Century Skills," he seemed fairly rooted in the 21st. Sporting a pair of glasses that seemed to be the same brand and style that I had seen in a picture of the founding fathers of our colony, Mister—*Professor* Chase was using technology from the 2030s. He was probably my age when those glasses were considered modern.

On top of that, he had a physical keyboard and mouse that he brought around with him. These devices had to be paired with the glasses because the glasses were just monitors on their own. Even in the New York megalopolis, the glasses we used could be controlled by a paired glove or crudely by eye movements.

The contacts that we were given could be controlled entirely by the mind. They required minor brain surgery (yes, the concept of *minor* brain surgery freaked me out as well) in order to work.

Today, Professor Chase was teaching us about how to program your class schedule into your contacts. Since I had done that a few weeks into the year, I just did some work on my History essay that was due on Wednesday.

My favorite thing about these contacts was that, unlike the glasses, it was impossible for somebody else to tell what you were doing on them. It seemed that all of the other kids in the class appreciated this as well considering that everyone had blank stares on their faces as Professor Chase spoke.

At 9:37, the bell rang and everyone got up to leave. My next class was History, a much better class in my opinion. I had a few friends in the class, and it was actually mentally stimulating.

The essay that I had been working on was about the space race of the 1950s and '60s. That was the unit we had just finished, and in today's class, we would move on to the next one. This unit was one on the colonization of Luna in the '30s.

“Hey Hudson,” said my friend Tessa as I approached our group of desks.

“What’s up?” I responded.

“Not much.” she said.

I sat down without saying much more.

“You usually have something to talk about.” She continued.

“I’m not in a very good mood today.”

“Why, what happened?”

“Sunset.”

“The sun finally went down then, huh?”

“Yup.”

“I’m pretty sure that if you were to go up a building you could see it.”

“The only buildings I’m allowed in, this one, and my apartment complex are blocked by other buildings.”

“Oh, well you’ll get used to polar night after a while.”

“I sure hope so.”

Our conversation ended as Mrs. Brackley, our history teacher, started the class. She was in her thirties and had been teaching for a decade, that perfect amount of time when a teacher is no longer inexperienced, but hasn’t been worn down by their students yet.

She sent a presentation to our contacts, and we all pulled it up to look at while she talked. Most of us also downloaded the presentation to reference later as notes, despite her saying that notes wouldn’t be needed for this part of lesson.

“Today, we will be covering the interspace-race period between 1975 and 2034. This period of time was relatively boring when it came to human space travel until the end of it. At this time, space was not the focus for most countries; there were other concerns that they considered more pressing.”

She moved on to the next slide.

“The First Space Race ended with the Apollo-Soyuz mission, a joint mission between the U.S. and the U.S.S.R., that served as the symbolic end of competition between them. With a lack of competition in the field of space travel, and the softening of the tensions of the Cold War, the enthusiasm for space travel fizzled out.”

She changed the slides again.

“Most of the developments in space travel during this period were technologies meant to help people on Earth. The improvement of weather forecasts and the invention of the internet occurred in this period.”

Another slide change.

“The U.S.S.R. dissolved in 1991, leaving the U.S. as the sole world superpower at the turn of the millennium. By the 2000s and 2010s, two new forces started to drive exploration in space: the private sector and then China.”

“The private sector in space was expanding rapidly. The most relevant company was SpaceX as it was the company to land the first people on Mars in 2024. The American space agency, NASA, was very invested in SpaceX. They hired them to conduct resupply missions of their space stations in the early 2010s, so when this first mission of one hundred people to Mars occurred NASA made sure to buy up many seats.”

She stopped for a minute and addressed the class: “Any questions so far?” Everyone looked at each other for a moment, but nobody had any questions. Mrs. Brackley went to the next slide.

“As the U.S. continued to invest in the first few years of Mars colonization, China became a rising power in space with the Tiangong space stations and the Chang’e Lunar missions. In 2028, China landed humans on Luna, becoming the second country to do so. By 2030, they had a permanent base near the south pole. This caused the U.S. to drop Mars and engage in a

second Space Race. By 2034, this second Space Race came into full swing with the founding of this very colony."

With that she closed out of the presentation and again asked for any questions. Again, there weren't any. She told us that while this will not be on any tests, it will be important for comprehension of the next unit in History: the second Space Race. After that, she let us work on our essays for the rest of class. I finished mine, so I wouldn't have to do any work for History until Wednesday.

I had the first lunch wave today, so I headed off to the cafeteria. Today's lunch was typical; there were many options. What they called "pizza," "pasta," and "tacos," were all being served, but it was obvious that they were all synthetic.

Soy beans, being a relatively easy crop to grow in space, have had countless genetic modifications put in them in order to create a massive variety of nutritious plants. The delicious "pasta" should have been making me extremely overweight. Instead, it was filled with protein and bone supporting nutrients, a must have on this gravity deprived moon. There were even cookies and donuts that looked and tasted exquisite, yet had no negative effects on one's health.

I meandered over to my group of friends that sat on the floor outside the cafeteria during lunch despite the excess of perfectly good tables inside (I had no idea why they did this, but I chose not to question it). Most of the group was there, which was typical if not excessive considering the fact that there were three times of day that people could eat lunch. I sat down in a spot around the oddly shaped circle next to some of my friends and started chatting.

"Crazy weather we've been having lately." One of my friends cracked.

"Yeah, I think it might have deviated a degree off of 295. Probably Lunar night getting to us." I returned.

“Ugh, not that again. Every year it’s the same.” He said.

“Really, how so? This’ll be my first one.”

“Well, it’s strange. You constantly have to adjust your contacts whenever you enter a building to avoid the brightness.”

Another friend chimed in: “and those awful streetlights are annoying as death when they overshine the contacts.”

“Wait what—” I asked before quickly being interrupted.

“You know the newest version of iContacts has automatic brightness correction.” A third friend joined in.

“iContacts, who even uses those?”

“Me.”

“Why don’t you get a Ring like everyone else?”

“Because they’re the worst brand of contacts…”

I tuned out the oncoming debate and turned to Lowell, the first friend I had talked to: “What’s this about brightness adjustments?”

“Just Stella and Tyro arguing over brands again.”

“No, I mean you can effectively give yourself night vision with the contacts?”

“Yeah, doesn’t everyone know that?”

“I guess now everyone knows that.”

“That 22nd Century Skills class must be dying useless.”

“Trust me, it is.”

“If you want night vision though, it’s an app called NiteBrite.”

“I’ll make sure to download it.”

Another friend came by, Alora, and sat down next to me (really, she sat down behind me and I had to turn around to face her because of our group’s odd seating arrangements).

“Took you long enough.” I said with a smirk.

“That deathly pasta line was as long as war.”

“Should have gotten pizza, it’s all the same anyway.”

“They really didn’t GM food back on Earth?”

“They did a little, but everything here is just soy.”

“That’s what makes it cheap, and you know that the city won’t pay a dime more than the minimum.”

“It is pretty good tasting food though.”

“I guess...Oh hey, Tyro sent me this,” she took a moment to send me a video, and it appeared in my contacts.

The video was from a recent VRfilm, except each character was labelled as a different organization.

The character labelled: “New Armstrong Colony” said, “You know what, I’m just gonna leave.”

The character labelled: “The Western Democracies” responded half-heartedly, “No… don’t.”

New Armstrong returned, “I’m gonna do it, just watch me.”

The Western Democracies said, “Please don’t.” in a flat tone not even looking at New Armstrong.

New Armstrong started once again, “You leave me no other—”

From outside of the door, a character marked: “Chang’e Bing” pulled New Armstrong out the door.

The Western Democracies looked up at the door, then looked back down at what he was doing, not knowing or caring where New Armstrong went.

Alora was watching my reaction, she and I had different views on our colony’s independence movement. Personally, I thought it was a horrible idea. Our colony, as well as the surrounding ones, made up the 51st state of the U.S. There were also more colonies on the Lunar mares and Luna’s far side that constituted the 52nd and 53rd states respectively.

Being from the U.S., or at least the part of it on Earth, I wanted the colonies to stay. My parents were still on Earth, and a new nation would cause difficulties returning. Also, the U.S. owned territory on Mars and Venus. Well, the E.U. owned the

Venusian territory, but they were one and the same with the Western Democracies union. A great union of democratic powers was starting to take hold of the solar system to lead humanity into the future. An independent Lunar state would just set them back since Luna was the main hub for transport between Earth and the rest of the solar system.

Alora continued to stare me down with her artificially red eyes. Almost everyone puts an outward display on their contacts. Most people display a witty image or gif, but Alora chose a solid ring of red to mask her irises.

I made a disapproving grunt and said, “I don’t see how this supports your cause.”

“Why not?”

“Doesn’t getting pulled away cast independence in a negative light?”

“No, the focus is on just how inattentive the Western Democracies are.”

“Mmm.”

“New Armstrong needs independence, its trade can’t be controlled by The WD any longer.”

“We’ve had this argument a thousand times, and you haven’t changed my mind. Also, don’t fret, it seems like you’ll get your way pretty soon the way the politicians are talking.”

“There’s a vote on Wednesday.”

“We’ll find out then I guess.”

“I guess we will.”

I turned around again to talk to more of my friends, and Alora turned around as well to talk to more of her friends. It seemed that Tyro and Stella hadn’t finished their argument about contacts brands yet. Rather, the argument extended, including Lowell as well as some of my other friends such as Anderson, Dayton, and Tessa.

I decided to head off to my next class, Biology, a few minutes early. People were being really argumentative today. It must have been the vote on Wednesday. Last week, the secession bill passed the state house 83 to 67. On Wednesday, the state senate would vote on whether or not to secede and make the governor the effective president until the next election cycle.

At that moment, it wasn't looking very good for camp unity. 27 senators have already pledged to vote for independence on Wednesday, but camp unity protests may sway their promises. It has been a very turbulent time indeed.

I approached my classroom just as the bell for the end of lunch rang, and waited outside until everyone showed up.

Biology with Ms. Floresta was a great class. She also taught Astrobiology, so the class always had a practical application in space. At that time, we were focused on the replication of DNA. Mitosis, meiosis, errors, and mutations were all parts of this unit, and she made sure to throw in some facts about how gravity affects telomeres and how radiation causes mutations.

I had a couple of friends in this class, Anderson and Tyro, so we worked together on the lab that we were halfway through.

The lab was more of a demonstration to ingrain mitosis into our minds than an actual experiment, but I found it fun to work along the lines that cells do. We were just finishing metaphase, and getting ready to use a big paper cutter on the chromosomes for anaphase when the alarm bells went off in the school.

"Attention, breach in outer dome, proceed to airlocks immediately, this is not a drill. Attention, breach in outer dome, proceed…"

I jumped up and ran to the door, hitting my head on the ceiling many times, while everyone else casually got up and took their time to talk to their friends as they went along.

A blue line appeared on the floor, a part of the emergency system built into everyone's contacts, and it said that I was 300 meters away from the airlock shelter for our school.

This shelter was actually just our cafeteria, which had airlock doors on each of its sides. The people who had third lunch were already there, but when it came to everyone else, I was one of the first ones to arrive. The tables were being cleared away, and extra folding chairs were being put out for everyone.

It was only four minutes after the alarm, and I could feel it getting colder. I went to zip up my hoodie then realized that I had left it in biology draped on my chair. Death, that was going to get destroyed unless I retrieved it. If I could slip out and get back in seven minutes, then I would make it back before the temperature hit freezing, before they closed the doors.

I went for it. The teachers were more concerned with putting out chairs than making sure kids were getting inside the shelter at this point, and the students were milling about anyway not worrying about getting inside yet.

I bounded along, feeling the temperature drop around me. Whenever a breach of the dome around the colony occurred that was larger than five meters wide, the colony would be cooled down to 55 degrees so that all the water vapor froze, all the carbon dioxide deposited, and all the oxygen and nitrogen condensed. When this was done, no more air would be lost, and it would make it possible for crews to fix the breach without a stream of air hitting them at the speed of sound.

I got to the classroom and rushed to my chair to grab my hoodie. I noticed my breath was beginning to cause condensation, and all of the metal objects in the room appeared to be sweating, fearing their oncoming demise.

I hurried back to the cafeteria, confounding Luna for its lack of gravity. As my teeth started to chatter, I entered the shelter with a group of other laggards that were deliberately putting things outside of the cafeteria to see what would happen to them, rather than retrieving objects to avoid what would happen to them.

I entered the cafeteria and found a seat next to my group of friends who had finally found it wise to sit inside of it rather than outside of it. Behind me, I heard all of the airlock doors slam shut, and the temperature that had approached the freezing point of water quickly returned to a more acceptable level. It was still colder than the typical temperature of the colony, but my teeth stopped chattering and my breath stopped condensating.

The room hummed with conversation, but surprisingly most of it was not about the breach in the dome of the colony. After a quick search on my contacts, I realized why: a breach large enough to warrant the freezing of the colony occurred roughly every six months. They froze the colony for a four centimeter meteorite just a week before I moved there.

A little bit too hyped up on adrenaline, I couldn't really engage in small talk at the moment. I walked over to one of the many windows around the cafeteria and took a look outside. A few cups of water had frozen into cups of ice. There were a few empty cups that were probably placed outside by the laggards I had seen earlier. I wondered if they would fill up with liquid oxygen and nitrogen, then thought it would be a good idea to take video from my contacts. I also pulled up the colony's weather app, the most useless device in existence other than times like today. The colony forever remained at 295 degrees, a comfortable room temperature. For once, it was falling. When I opened the app, it displayed 263 degrees. If I had still been outside at this point, I would be getting frostbite.

The minutes dragged on with little change. Thanks to the special airlock glass, my view wasn't fogged up and blocked. A few glass objects shattered outside, some metal ones warped and shifted as they contracted. An origami swan that someone had made and placed outside developed frost all around it as if it had some strange disease. The fractal shapes tangled around its exterior in a surprisingly beautiful manner.

By 1:11, 50 minutes after the alarm went off, the temperature dropped past 195 degrees, the deposition point of carbon dioxide. The swan's condition worsened as a second layer of spiky deposits grew across its skin.

The temperature continued to fall outside, and the water ice passed into a denser phase. The origami swan which had retained a semblance of beauty in its icy tomb contracted as if an invisible hand had reached out and crumpled it.

Metal continued to warp, and objects continued to break; everything was still covered in a double coat of frozen atmosphere.

Around 2:00, liquid started to appear again, but it didn't signify the return of heat. Rather, this liquid signified the further cooling of the city. It was liquid oxygen, and the little drops of it quickly turned into a flood that cast a pale blue light across the school. The oxygen drained, settling to the lowest levels of the city. All that remained of it was inside of the empty cups that people had left out.

Finally at 2:20, a fourth wave of condensation occurred. This condensation filled up the school, creeping up the walls and up the window. When it drained to the city floor, it carried much of the frozen debris with it. Only then would the crews be able to go out and patch the breach in the dome.

I returned to my group of friends who were mostly doing homework. A couple of them were talking to each other.

“Biggest breach in 19 years,” Lowell was saying to Alora, “24 meters wide.”

“How much air did we lose?”

“We won’t know until after they reheat the atmosphere, but they’re estimating a little over a cubic mile.”

“One eighteenth of our air lost, I think that’ll be a noticeable drop in pressure.”

“They’ll import some more in a week.”

“Did you guys watch the cooling process?” I interposed.

They turned to me.

“No, I’ve seen it countless times before,” Lowell responded, “but I remember it being really fascinating the first time I could understand what was going on.”

“I find it depressing,” Alora said, “everything in the halls and on the streets has to be cleaned up and replaced.”

“Well, I thought it was pretty *cool*.” I started to crack a smile at my own pun, and my friends groaned at how bad it was. I was known amongst my friends as “the guy who told bad puns,” so I had to cement my title every once in a while. “I am kind of upset about all the stuff I’ll have to replace in my apartment.”

“Do you want to tell him or should I?”

“I explained NiteBrite to him just this morning.”

“Alright then. Hudson, all of the rooms have airlock doors.” Alora said.

“Well why didn’t we just stay in our classrooms.”

“This room is set up with oxygen tanks, and carbon dioxide filtering. The other rooms don’t have that.”

“Oh,” I said.

“Also,” she added, “the classrooms, and all rooms in the city, can be chilled a bit colder than this one because they are only carrying objects. By letting them get colder and pumping

most of the air out so that the rooms are only at 0.05 bars, most objects are saved without costing the city a fortune."

"How cold do the other rooms get?"

"233, 40 degrees below freezing. Most objects can survive that, especially when the air pressure is so low that the temperature doesn't matter much."

"How long are we going to have to stay in here?"

This time Lowell answered me. Presumably, it was his turn to educate me after Alora, "The crews got to the breach ten minutes ago. They're probably nearly done; I'll get a notification when they are. The long parts are the cooling and heating processes, but heating goes about twice as fast as cooling." He looked to Alora, "I think we'll be out of here by 3:30?"

"Yeah, maybe 3:45 considering how big that breach was."

"True."

I strolled back to my window, and did some homework. There wasn't any from today, considering that I only had (only went to) three classes, but there were some lingering projects that I had pushed to the back of my mind that I decided to finish today.

I noticed that the weather app on my contacts had begun to display a rising temperature, but nothing eventful happened outside before the airlock glass became fogged with the steam of boiling nitrogen.

I couldn't be missing much outside my window considering that all of the cryogenic fluid had drained into the streets of the city. Imagining those streets, though, I felt as if I was missing something. Across the city, bubbles would erupt throughout the flooded streets as the nitrogen boils off. Then, the greatly diminished flood would go through a second round of boiling as the oxygen returned to the air. Dry ice littering the

streets would start steaming as it sublimed. Finally, the pervasive frosts of water ice would melt, leaving the city a dripping, steaming mess.

I thought about this as I worked on my projects, wondering if anyone had ever caught video of this. I decided to stay focused, reasoning that I could watch it later if it was out there.

Around 3:30, the window became transparent again, and I could see the outside world. At 3:43, an announcement rang through the airlocks of the city: “Breach sealed and atmosphere reheated: all clear.”

I sprang up and bounded toward the airlock doors. Admittedly, I was starting to feel claustrophobic from being in the cafeteria for three hours. Maybe that was why my friends always sat outside of it. The airlocks opened, and a gust of wind pushed me out the door. My ears popped, and I remembered how the colony had lost a sizable portion of air.

I walked around the outside of the cafeteria to the window I had been looking out of. Among the broken glass, emptied cups, and warped metal sat a pulp of synthetic material in a fairly uniform mound. The swan. The laggards came around to look at all of the items they had sacrificed and seemed to get a kick out of it.

I returned to Biology to see how everything had fared during the breach, and unlike the hallways of the school, the classroom was orderly and pristine. No broken chairs, no broken desks, even the lab was fine. Our cell was frozen at the beginning of anaphase as if it didn’t realize that the temperature had been turned back on.

I exited the building and walked down the street to my apartment. As I had installed NiteBrite on my contacts, I could see the steam rising all around me as the water vapor returned to the atmosphere. The world looked vibrant again, as it had up

until mid-February, all of the students from both schools were returning home to their respective apartment buildings.

I went up to the door of mine, scanned my contacts to get in, and rode the elevator up to my floor. With another scan of my contacts, I entered my room. It was fine. Everything actually seemed a bit fresher, some of the bacteria must have died during the freezing and decompression.

I sat down on my sterilized couch and watched some videos on my contacts. I didn't have any homework to do, and my brother was going to get home soon, so I thought I'd wait for him.

There were some new videos on my feed about the vote on Wednesday. I watched them nodding along to their points. Lunar independence would only turn out bad for Luna, and very few on Earth actually cared to keep the colonies from seceding.

With the advent of the Laika-1 space stations positioned at Earth's L1 point with Sol, Luna was already losing out on the business it received being an interplanetary hub. Luna's minimal gravity well was small, but could never beat out a free floating colony. Its only advantages were its resources and population, but independence would more than likely tip the balance in favor of Laika-1.

Independence would also be a nightmare for me and my brother. Without being subject to the laws of the U.S., New Armstrong may cut our benefits. The two of us were there on an initiative that gave us free education and free rooms on Luna as long as we worked there for a handful of years after. If independence arrived, this initiative might be gone.

I heard the quick electronic hum of our apartment door activating and watched as my brother came into the room with a bag of groceries.

"I bought some more milk Hudson."

"Thanks Grant."

“Thanks for what, picking it up off the ground outside?”

“You know what I mean.”

“Yeah, yeah...oh, by the way, did you miss a class at school today, or was it just an error in the system?”

I saw a way out, “You think the breach in the dome and staying in the emergency shelters caused the system to think I missed a class?”

“Yeah, that or you skipped.”

“I didn’t skip any classes.” I started defensively.

“I hope not.” He responded, suspicion rising.

“I’ll get it sorted out at school.” I concluded.

“Alright,” he said, only somewhat satisfied with my conclusion.

“I’ve got to do some homework.” I said trying to find some excuse to discontinue the conversation.

“Alright,” he repeated in the same unconvinced manner as before.

I edged toward my bedroom, entered, and closed the door. Ever since the move, Grant had been acting more and more like our parents, and less and less like my brother. He was only four years older than me, but he held an authority as if he was much more. When we were younger, we treated each other as equals, and so did our parents. However, since our parents told us that we would be moving nearly a whole year ago, they made it very clear that Grant was in charge, that Grant would be looking after me.

I continued to watch videos until late into the afternoon and got ready for bed trying to leave my room as little as possible to avoid Grant. This probably just made him more suspicious of me, but I was a horrible liar. I passed him at one point when I left my room to get some food for dinner.

“Lots of homework, huh?” He asked me.

“Uh...yeah, lots of homework.” I responded (if you could even call that a response). Then I quickly grabbed some food and returned to my room.

At 10:00, he knocked on my door, and I got a pang of anxiety thinking that he figured me out.

“Time to visit Mom and Dad.” He told me.

“Okay,” I answered with a sigh of relief as my anxiety fled my body.

I followed my brother into our living room, and entered the ARroom we had set up with our parents. Around us, the living room of our Lunar apartment morphed into the living room we had back at home. The designs on the walls, the color of the carpet, and the texture of the furniture changed in our vision. We had arranged our living room on Luna to match the living room of our old apartment on Earth. This allowed us to create an augmented reality like this one without constantly bumping into chairs and couches whenever we tried to move around. However, we couldn't explore the rest of our old dwellings in augmented reality because it did not have the same layout as our new one. I learned that the hard way after our first meeting when I stubbed my toe on a chair in the kitchen that wasn't there in our old place.

Our parents would always ask Grant if he could set up an ARroom of our Lunar apartment so that they could visit us for once, but their tech back at home simply couldn't handle the processing power of simulating a whole room. Merely simulating the two of us was pushing it, especially with the one second time delay between Luna and Earth. Often, our parents entering the same space as us in AR would completely crash the system and we’d have to reboot.

Grant and I sat awkwardly in our—their—our living room (the pronouns got tricky here) waiting for them to return from work. It was 10:10 on Luna, which followed Universal

Standard Time, but it was 5:10 for our parents in the eastern U.S. I imagined it must have been convenient for the Britons on Luna to communicate with their families until I remembered that because of daylight savings, they spent most of the year off UTC.

I wandered away from these thoughts as I heard our parents walking down the hallway outside. The door creaked open, always a strange sound to hear after a long day of electronic doors, and our parents walked into our field of view.

“Hi guys!” Mom exclaimed. Always eager to see us, she went for a hug which we had to back away from to keep the system from crashing.

“Oh, sorry,” she faltered as she realized her mistake, “I always forget about that.”

“No worries,” my brother replied, “we’re always happy to see you.”

Our father walked over to one of the couches and collapsed onto it, worn out from work. He worked as a suborbital travel pilot, a job better described as copilot to the AI flying the thing. Although he didn't actually have to do much usually, the changes in acceleration that he had to experience throughout the day were physically taxing.

I remember once when I was younger, Dad arranged for Grant and I to come to a day of work with him. First off, we had to get up at 3:30 in the morning so that we could get to the airport by 4:30. Our first flight left at 5:00 in its circuit around the globe. This flight took some commuters to London. Most international companies allowed for shifts flexible a couple hours ahead or behind in order to recruit the best people for the job. Anyone from Chicago all the way to Mumbai could work in London with only several hours difference relative to their time zone. Of course, anyone could work anywhere, but they

may have needed to work during what was nighttime where they lived.

My brother and I had sat in the cockpit with our father as a wide window stretched out in front of us. The window was so wide that I needed to turn my head from side to side to see a full view out of it. A large track extended out in front of us seemingly forever. A wide tunnel slowly converging on a single point scores of kilometers away. A low growl started, then quickly rose in pitch and volume to a hum, which in turn elevated to a piercing scream.

Suddenly I was pressed into my chair with six times my weight. I felt paralyzed, and it felt like this went on for hours. When it finally stopped, we were quickly immersed in a rainbow sky as the sun rose. Just 90 seconds had passed since our trip started, and the suborbital returned us to our normal weight, but pressed against our chair instead of pressed against the ground. After another 90 seconds, this weight faded, and we were sitting in zero gravity.

The seat belt sign turned off, and I hastily undid the various buckles and belts meant to keep me in. I was floating, it was incredible. There wasn't much else in the cockpit floating around as the control panel was fastened down, and all luggage was checked underneath us, although underneath was a useless term at that moment as I spun around and around.

This weightlessness continued for 25 minutes as my brother and I meandered about without any sense of direction or order. Out the expansive window was a view of space. The inky blackness only punctured by countless white stars. These stars grew more numerous than anything that could be seen on Earth. Even the most barren countryside did not behold a view this majestic, and I lived in a megalopolis.

Eventually, the seat belt sign turned back on, and the sky returned to its naturally blue hue. Our father ushered us back to

our seats for the impending landing. A weight gradually seeped in which was a suddenly foreign experience. No longer did I have a familiarity with being anchored to the ground. For 90 seconds, I felt extremely heavy as I was pressed into my seat. This was reminiscent of the first 90 seconds of our voyage, but it was only 1G that made me feel this way.

With immense force, those 90 seconds ended, and another 90 started with the same 6Gs that were present at the start of this strange experience. The blue sky collapsed into a point in a fraction of a second as we were surrounded with track. Evidently, we slowed down to a complete stop as most of the acceleration ceased. What remained was our terrestrial gravity that had become strangely alien.

Standing up to deboard, I had seemingly forgotten how to walk. I stumbled off the suborbital with my father and brother, and we headed across the airport to the next one. I asked my dad if I could see the list of flights we had to make today. Unfortunately, he flew short range routes, meaning that we had to stop in Istanbul, Mumbai, Sydney, Honolulu, and Los Angeles before we could return home. That was when I realized why he was so tired after work every day.

Jumping from city to city around the globe was draining to say the least. By the last period of 6Gs, it began to feel like that was just the normal gravitational pull of the planet. The periods of zero gravity, while longer, did not feel as significant because they were fairly repetitive after a while. Near the end of the day, I didn't even bother getting out of my seat for these periods because I was too exhausted and because they had become mundane.

When we finally returned to New York at 4:30, I was unbalanced and fatigued. I tried to remind myself of the fact that I had just circumnavigated the globe faster than it can circumnavigate itself while we waited for Mom to get back

from Greenland. She worked as a real estate agent there with more manageable hours than Dad. At eight hours a day, she would leave for Nuuk at 6:00, flying as a passenger in one of the same suborbital flights that had torchered us today, and return home a little before 5:00. When she finally got off the suborbital, we had all gone home spent from our long days.

"So how was your day Hudson?" Dad asked from his chair. Lost in thought, I jerked my head towards him.

"What was that?" I asked because I hadn't heard him while zoned out.

"I asked how was your day."

"Well, it went pretty well until there was a breach in the city dome." Grant jerked his head toward me the same way I had jerked my head toward Dad. In my field of view a notification popped up for messages. I opened it up fearing the wrath I was about to receive. The message was from Grant, and it read: "I told you not to tell them." I also saw that he had sent me another message just a minute ago that read: "don't tell Mom and Dad about the breach in the city dome, they'll freak out." I must have been spaced out when he sent that.

Despite missing it before, Grant's message foretold an accurate prophecy as our parents stared at me shocked. Nobody spoke for a moment, so I decided to break the tension.

"They patched it up in a few hours, nobody got hurt."

"We didn't even know until after they fixed it," Grant said, a blatant lie, "it was such a small breach that they didn't need to put everyone in shelters."

I just nodded along assuming that Grant had a reason for this, and followed him as he diverted the conversation. Very quickly our parents decided that they needed to start dinner, and Grant decided that we needed to go to bed, so we said our goodbyes and left the ARroom. Our parents' living room morphed back into ours, and our parents faded into a mist in the

air. I looked at Grant, and he looked at me. He took a sharp inhale then let out a long sigh.

"I know that you didn't want to move here, and I know that you don't love it now, but I do, and in time you'll see how great of an opportunity this is." I stared at him, glared at him, actually, and he continued. "Mom and Dad just want the best for us, you know that, and if they started to doubt our safety they'd make us go back to Earth."

"How? How could they make you, a legal adult, return to Earth?"

"It's more complicated than that, you don't understand."

"Oh, because I'm so much younger than you?"

"Well you sure act that way when you skip school and lie about it, especially on a world that collects so much data. Look at this."

On my contacts I received a video. It was a video of me that morning going through the door to school. There was a timestamp in the upper right hand corner, and it read my guilty verdict: 8:37AM.

Fury built inside me, "You're spying on me! Why are you spying on me?"

In a counter to my rage, Grant stayed calm and serious, a move Dad had used all the time, "The school sent it to me; you were on their property, and at the beginning of the year you signed an agreement letting guardians see any video of you on school property."

"Wow, that makes it totally justified. What else are you gonna drag out of the fine print, huh?"

"Go to your room."

"No! You're not my Dad!"

"You're right; I'm your brother, and I said go to your room."

I had had enough. I stormed out of the room and out of the apartment. I walked straight toward the city's edge and sat there, staring at the dark expanse around me. It took me a second to find Earth; it was in its new phase at the time. It hung off the edge of the world, just above the horizon, as always. I looked down upon it and its whitish city lights.

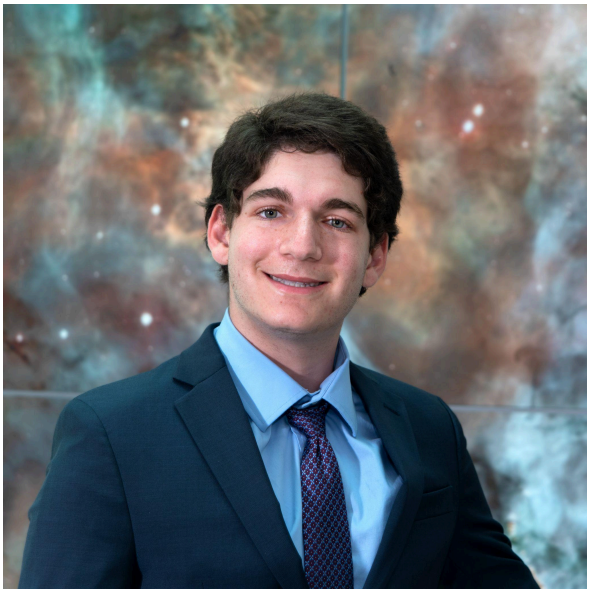
They had different tints depending on the city, some were yellowish and others were bluish, just like the colorations of stars. I saw the shape of Africa outlined with a nearly opaque halo of light. The center, which contained a multitude of cities, was outshined by the rim in spite of its brightness. The Indian coast was similarly speckled to the interior of the continent. The upper right limb of the planet was obscured by the glare of megalopolis light, making it look like the sunrise had come early to Eurasia. Peeking around the edges were bits of Australia, Antarctica, and South America, but it was hard to make them out.

Moving on from Earth, I looked up and a little bit to the right. There sat the bright white star Vega and its little brother Deneb. They circled around the sky once a month as Luna rotated holding up the flaming head of Draco that signified north. Eta Draconis, Altais, Eltanin, and Rastaban made up this head which tucked itself around the north pole being careful to skirt around it rather than touch it. The flaming head consisted of giant stars with reddish hues, yet their distance made them dim. As such the flaming head of Draco was on a mere simmer as the dragon grew in age.

I watched the stories of the constellations unfold for a few hours until I grew weary. I shouldn't have stayed out that late, but I couldn't let Grant get the last laugh. One thing we were the same about was our stubbornness. He hadn't even sent me a text despite my being out until nearly 2:00AM. However, I conceded, acknowledging that I had school tomorrow.

I snuck through our apartment building and into my room. Grant was snoring lightly in his room, but I had a sneaking suspicion he wasn’t actually asleep. Either way I didn't care given my exhaustion, so I went into my room and climbed into bed as swiftly as possible. As soon as my head hit the pillow, I was asleep.

About the Author



Max Riley Rudin is a twenty-year-old author and YouTuber who has written four science-fiction novels, of which he has sold over 130 copies. He owns and operates a digital media organization called Graviton Media Group with over 3,400 YouTube subscribers. Through Graviton Media, he produces educational videos and podcasts about physics, astronomy, space exploration, rocketry, and science history. He started writing this book when he was a fourteen-year-old freshman in high school and published it a year later.

Rudin's novels all take place in the same continuity, with familiar characters from this book appearing in the background of others. His novels include *The Solar System*

Century trilogy—consisting of *A Truly Dead Rock* (2019), *A Bottled Up Flame* (2020), and *A Somewhat Odd Start* (2021)—as well as *The Fall of the Four Bases* (2024).

Graviton Media teaches educational topics to teenagers and adults. Rudin started his YouTube channel when he was only ten years old. Since then, he has consistently written, researched, produced, edited, created graphics for, and composed music for his videos and live streams on the Graviton Media YouTube channel. After ten years of content creation, Rudin has a portfolio of 140 videos and 120 live streams and is adding to it every month.

Rudin attends Rice University in Houston, Texas, where he studies physics and finance. He is pursuing a Bachelor of Science (BS) Degree with a Major in Physics and a Major Concentration in Applied Physics as well as a Minor in Financial Computation and Modeling. He worked as a summer intern at NASA's Goddard Space Flight Center, where he joined a team developing a gamma-ray detector called AstroPix for the planned AMEGO-X space telescope. He served as the team lead for Rice Eclipse Rocketry Team's certificates program, where he helped students become certified in high-power rocketry with Tripoli Rocketry Association. Currently, he is working as a research assistant with Rice's Army DEVCOM Research Lab, where he is testing the radiative cooling properties of experimental polycarbonate materials. He is also serving as the treasurer of Rice's Society of Physics and Astronomy Students. Rudin expects to graduate from Rice in May 2025 and plans on pursuing a career in aerospace, nuclear power, or quantitative finance.

When he's not writing books or producing content for his YouTube channel, Rudin studies for his classes at Rice, builds rockets with the rocketry team, and talks to his family over the phone. He looks forward to discussing his favorite

topics—science, philosophy, and the future—through his next novels and to sharing his passion for these subjects with his audience.

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