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# TITAN

A NOVEL

MADO NOZAKI

TRANSLATED BY EVAN WARD

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# TITAN

MADO NOZAKI

TRANSLATED FROM  
THE JAPANESE BY  
EVAN WARD



*Seven Seas Entertainment*





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## **CAST OF CHARACTERS**

### **SEIKA NAISHO**

Ordinary citizen. Hobbyist. Psychologist. Female.

### **NAOYUKI TAKASAKI**

Ordinary citizen. Male.

### **NARAIN SRIVASTAVA**

Employed. Manager. Male.

### **LEI YUGEN**

Employed. Engineer. Male.

### **HORST BECKMANN**

Employed. AI Researcher. Male.

# I. EMPLOYMENT

## 1

“THE HUMAN MIND IS A CONFLUENCE of language and imagery,” I said, the lectern’s microphone projecting

my voice throughout the auditorium. “Now, when I say ‘language,’ I am of course referring to the words we all use on a daily basis. They’re the fundamental building blocks of meaning and the tools with which we express ourselves to one another. Imagery, on the other hand, is a bit trickier to pin down. Perhaps the quickest way to describe it would be to say that it refers to any *other* type of thought that occupies our minds—things that are too difficult, or abstract, or outright impossible to express in words.”

My words echoed loudly throughout the venue, at the same volume as I heard it on the monitor, which made sense, given that there were few obstacles to dampen the sound waves. Of the two hundred and forty seats in the auditorium, only six were filled with live spectators.

“When we see an apple, for instance,” I said, “we first create a visual image of what we’re seeing in our minds. We recognize its red coloring, its rounded shape. But until we connect that image with the word ‘apple’ in our heads, it remains only that—an image. Not that there is a problem with this, mind you. Unless there’s a pressing need to verbally convey something related to that apple to someone else, that image is all our brains really need.”

I noticed an elderly woman in the audience nodding at this. For whatever reason, it felt like I was getting a much greater volume of immediate feedback here than I ever did during the lectures I gave online—but perhaps my mind was simply playing tricks on me.

“The same can be said for auditory experiences or tactile experiences,” I continued. “We render all sensory information—textures, sounds, smells, tastes—as ‘images’ that can only be viewed by our mind’s eye. In the philosophy of the mind, we call these images *qualia*, while in linguistics, they’re the *signifié*, as opposed to the *signifiant*.”

The old woman was now closely examining the personal aerial holofield projected directly before her, which should have just brought up dictionary entries for the technical terms I'd thrown in at the end. These were not the sorts of concepts one could grasp just by reading a quick summary, of course—but that was precisely why I'd chosen them to help emphasize my point.

“Yes, those words you're all attempting to decipher right now? That's language. And unless you've all been classically trained in my specific field of expertise, I assume you can see what I mean when I say that language is an awfully slow and inefficient way for one brain to communicate ideas to another.”

This got a good chuckle out of the old woman, and so I smiled back at her.

“What if I could simply share with you all the ‘mental images’ I associate with each of these concepts, and transfer my understanding of them directly into your brains? You'd all be able to instantly comprehend any topic I might wish to explain. But unfortunately, this just isn't possible with our current technology. So instead, I must simply try as best I can to encode those concepts into words, which your brains can then attempt to decode into your own mental image—and who knows whether the end result will be anything like what I meant to convey? But I suppose I'm getting a little off topic. Here's all I really want for you to take away from this lecture today.”

The presentation automatically advanced to the next and final slide, which featured only a single line of text:

*Overcoming our mental limitations.*

“In many ways, images are the default language of the human brain—a language that's extremely difficult to perfectly decipher or translate. But we still must try, or else even our most brilliant ideas would die without ever being shared or built upon. We could not progress as a society without a logical and communicable form of thought, and so we developed language as a means of overcoming those mental limitations. It is only by distilling the contents of our minds into words that our thoughts are given form and made apprehendable to those around us. And I believe that by making an effort to express our feelings in words as much as possible throughout our day-to-day lives, we can also

develop a deeper and richer understanding of ourselves. You might even say it's the single most important step toward cultivating true, long-lasting mental health."

I looked down at the holofield in front of me. There were exactly 370,000 viewers on the livestream. Add to that the six people in physical attendance, and a grand total of 370,006 people had stuck around until the end of my lecture. And yet, I addressed my final remarks to one elderly woman in particular.

"Thanks so much for listening," I said, then stepped down from the podium to paltry applause and an uproarious number of "likes" as the presentation returned to the title slide.

## Psychology in Our Everyday Lives

### Cultivating a Healthy Mind

Dr. Seika Naisho, Psy.D.

As soon as I stepped back into the wings, the young man in charge of planning the event ran over to me like an excited puppy dog, with a spark in his eyes to match.

"That was incredible, Dr. Naisho!" he said. "Really powerful stuff!"

His passion for my lecture was so intense that my only response was a sheepish smile. I knew going in that he had to be quite the psychology enthusiast to ask me to do a largely pointless live event here.

"Honestly, the only thing I *didn't* like about it was that it was over so soon! Fifty minutes is hardly enough time to even scratch the surface of your expertise, Dr. Seika!" he said, calling me by my first name like we were old friends—which struck me as particularly funny, because I couldn't remember either of his. "So hey, if you're not busy later, I was thinking maybe we could get lunch or something?"

That was a bridge too far. I let my annoyance show plainly on my face. This emotion was one I never had any trouble converting into words, yet it seemed for once, I was able to convey my thoughts completely nonverbally, as he immediately shrunk back. With a prayer that he'd take the hint, I gave a little bow and turned to leave—but the annoying puppy-boy insisted on seeing me all the way to the door.

"I really mean it, though!" he said. "You did some truly inspiring work today!"

Now this choice of words really rubbed me the wrong way. He was just a blatant ass-kisser at this point. Yet still, I tried my best to be professional.

"That's very flattering, thank you," I said with a smile. "But really—psychology's only a hobby."

## 2

I stepped out the front door of the Tachikawa Cultural Center and into the bustling afternoon rush of the city. Uniformed schoolchildren on their way home, homemakers walking around with bags upon bags of brand-name goods dangling from their arms, a group of middle-aged men filing into a nearby sports gym—everyone was living out their happy lives with healthy minds. While I knew that, for most of human history, mental illness had run rampant, these days, it was getting exceedingly hard to find anyone suffering from poor mental health. This made my personal field of study rather niche, as it was now virtually irrelevant to modern society, but I didn't mind. I studied psychology because I liked it, and that was reason enough.

After thinking it over for a moment, I decided to head out on my own two legs and join in with the healthy people walking down the street. A little stroll now and then couldn't hurt, and I was already here in the heart of downtown, so I might as well head over to the collection mall in the station building and pick up a few things.

At the mall entrance, I picked out a collection bag with a stylish design, then headed immediately to the general goods department. Though you could easily examine items from any angle on NetCollect and have them shipped straight to your door, I still preferred to pick out some things in person; it was pretty hard

to tell how charming a given knick-knack was from the 3D render. In person, I was able to quickly pick out a simple mug with an interesting pattern I rather liked and stash it in my bag to take home.

Then I headed over to the clothing department. I'd never been the type to keep a hoard of clothes I never wore in my closet, so it felt like a good idea to have a few nicer outfits ready in advance. In case of another public speaking event, so I wouldn't have to scramble to put together a look at the last minute as I had today. I picked out a smart, all-purpose public outfit, as well as a few articles of seasonal attire. My bag was already growing fairly heavy, so if I saw anything else I wanted today, I'd opt to have it delivered.

As I was making my way to the next floor, I passed the furniture department, where a floor display caught my eye. It was a striking lounge chair with curved wooden legs weaving around and intertwining with one another, almost like a thing alive. When I sat down to try it out, it was far comfier than I'd imagined. I decided to order it right then and there.

"I'll take one of these," I announced. Titan immediately picked up this command via one of the floor's omnidirectional microphones and emitted a gentle electronic ding to inform me my order had been processed for delivery. This was turning out to be a very fruitful collection trip indeed—maybe I should come into town like this more often.

Then I stopped by the café on the seventh floor. I gazed out over the city of Tachikawa spread out below me. Then I glanced down at my wrist, and the current time appeared in midair. It was still only three in the afternoon, and I had no plans for the night. As I contemplated what to do with my time, I couldn't help but be reminded of the young man from earlier—the event planner who quite clearly had a thing for me. I knew there were plenty of men like him out there in the world, but this was the first time I'd actually met one in the flesh.

A classic romantic.

Someone who believes in love at first sight, who knows in their heart that they'll eventually meet their soulmate by pure coincidence in the natural course of building interpersonal connections in daily life. While this was obviously



unrealistic and inefficient in the extreme, there was something to be said for the fact that just taking advantage of random meetings had been the predominant way that people got together for most of human history—and we hadn't gone extinct yet. One might even argue that overcoming inefficiency through the application of sheer numbers was the sine qua non of natural selection. Love and romance were, after all, just a means to the biological end of reproduction.

*Come to think of it, I've been having a real dry spell for a long time now, haven't I...*

I thought back, and I soon realized that it had now been almost two years since I last tried my hand at dating, love and all of the various acts so implied. There wasn't a single part of me that regretted turning down that puppy-boy's lunch invite, of course, but I couldn't deny there was something about his passionate pursuit of deeper connections that had left an impression, albeit a minor one. But I could never see myself adopting his methodology of approaching more or less anyone who might be remotely interested. This was the 23<sup>rd</sup> century, after all—I had an array of modern tools and conveniences at my disposal.

"Matchmaker," I whispered. Immediately, an aerial holofield of search results appeared atop my little cafe table. It had selected for me several candidates of my preferred gender, each entry accompanied by a little blurb and overall compatibility rating that took into account our respective preset criteria and personal tastes. The top candidate had a compatibility rating of 84 percent, more than enough to warrant a date. I reached out a finger to select him when suddenly, several of the results disappeared and were immediately replaced by new ones.

The top candidate in the newly refreshed search results boasted compatibility of a whopping 98.1 percent—a rating I didn't even realize was possible. I'd never seen anything remotely close to it before. My eyes went wide as I tried to imagine what type of person could *ever* be nearly 100 percent compatible with me. I selected the option to request a meetup as fast as I could. In no time at all, he accepted, and we officially had a dinner date here in town set for 7 PM.

Because there were still several hours remaining before my date, I killed some time by heading out into town and resuming my little stroll from earlier. While Tachikawa wasn't all that far from home, I'd only come here a handful of times in my entire life and wasn't overly familiar with the area. Walking just a single block away from the main drag where all the local public services were located brought me immediately out into a quiet residential district. Here, the only notable sounds were the twittering of little neighborhood birds and the occasional motorized hum of a dropbot's propeller buzzing by. After walking a bit, I eventually came to a lot that was covered on all sides by a massive transparent tarp. Curious, I peeked inside—only to discover a constructor phalange currently in the process of building a new house on the property.

"Well, would you look at that," I murmured as I stopped to marvel at the highly unusual sight. Most construction work of this nature was generally done in the wee hours of the morning so as not to disturb the local residents, so I could only assume there'd been some unforeseen irregularity that resulted in the phalange's work dragging well into the middle of the following day. Not that I had a complaint since I got to bear witness to a seldom seen aspect of society. Like a child on a field trip to a production factory, I watched the construction work unfold with rapt attention.

The constructor phalange was equipped with several swiveling bendable arms and a large tank full of liquidized construction material—generally a type of synthetic photopolymer that rapidly hardened upon exposure to light at a specific wavelength—attached to its walking base. The photopolymer was dispensed by nozzles on the "head" of each arm and layered to create extremely complex structures in no time at all. I was, admittedly, not familiar enough to recognize the material in the phalange's tank as that photopolymer on sight—I just knew it as the material used to construct virtually all residential buildings.

I watched as the phalange scurried around the construction site on its crablike legs. Judging from the size of the plot of land, and the framework it had already completed, I guessed it was constructing a residence of perhaps fifteen or

twenty rooms. This was a reasonable amount of space for a single adult to live in, and in a fairly nice area too—I honestly wouldn't mind moving in if it didn't immediately get snatched up by someone else. I'd forget if I didn't actually make a note of it, so I told Titan to remind me to check for the listing later, and it responded with a little electronic ding. I stood watching the constructor phalange go about its work until the sun began to set, then set off at a brisk pace toward the restaurant.

## 4

When I stepped inside the little French place where we'd made our reservation, I saw that my date had already arrived. The bespectacled young man flashed me a gentle smile and rose from his chair to greet me.

"Hi there. Naoyuki Takasaki," he said.

"Seika Naisho." I bowed slightly.

"Oh, uh... Here, let me get that for you!" he said, flustered, as he came around the table and pulled my chair out for me. I smiled politely and sat down. We then proceeded to make small talk and get to know one another a little bit as we waited for our food to arrive.

At 28, Takasaki was two years older than me but was so energetic and sociable that I would have thought him younger. His primary hobby was ballroom dancing, and he was so passionate about it he even participated in regional competitions. Being the modest guy that he was, he immediately downplayed this by insisting he was all passion and no talent.

"Of course, it doesn't help that I'm at a natural disadvantage in the looks department already. Hard to stand out from the crowd when you've got a face as plain as mine," he said bashfully. I honestly didn't know what to do with myself; he was so my type, it was uncanny. Not that Titan's matchmaking service had ever done me wrong in the past—generally, my personal assessment of the guys I'd dated more or less aligned with the compatibility rankings they'd each been assigned beforehand. But now that I was sitting straight across from a 98.1 percent match, I couldn't believe the difference between him and every other guy I'd dated.

I loved plain-looking men. Loved soft-spoken guys with a humble demeanor. Loved the type of person who you could tell wasn't obsessed with being in charge. He was exactly my type in just about every way I could think of. I had to give Titan major kudos for selecting this total catch for me.

Our food came, but we continued talking between bites, thoroughly enjoying each other's company and the instant rapport only people with a 98.1 percent compatibility rating can experience. With only a 1.9 percent margin of error, the conversation flowed effortlessly back and forth, with no friction whatsoever—like a pair of figure skaters on the smoothest of ice. It was an extremely delightful meal. But right around the time our bottle of wine ran dry, we hit a small bump in the road.

"So hey, um... I wanted to ask you something, Naisho," he said, then paused for a long and awkward moment before continuing. Almost like he knew what he was about to say would completely kill the evening's momentum—and sure enough, it did. "How do you feel about...work?"

"Work?" I said, widening my eyes in confusion. "As in *work-work*?"

"Correct."

"I mean..."

I trailed off, and the conversation died. My confusion was justified; it was a ludicrous question to ask so boldly, especially on a first date, especially to a woman you'd only just met. I had no idea of his intentions, nor what he was hoping to get out of this date. To even broach the subject of work was highly eccentric—something he understood well, judging from the sudden burst of flop sweat coating his face.

*Wait a minute.* Perhaps this was the missing 1.9 percent of compatibility rearing its ugly head. Assuming it was, then it would be best to find out right here and now whether it was a 1.9 percent we could paper over, or the minuscule difference between us that we'd never be able to move past. And so I answered this exceedingly bizarre query in the most careful, unassuming, and predictable way I possibly could—hoping it might draw out his true colors.

"I've never worked a day in my life, so I guess I wouldn't know..."

“Right... Yeah, no, of course,” Takasaki said as though it were the most obvious thing in the world. “I mean, I’ve never done a day’s work in *my* life either, so neither would I.”

*Work*. A word only used today in purely idiomatic contexts, so it tasted strange and unfamiliar on my tongue. I tried to recall what I’d learned about the antiquated concept back when I was in school.

It all started around a century and a half ago. Up until the midpoint of the 21<sup>st</sup> century, the vast majority of human beings on Earth had “occupations” they needed to perform in order to live—or so my social studies textbooks explained. But then, right around the year 2050, the Labor Revolution began, and work was slowly but surely phased out from the lives of the general populace. And now, here in 2205, work was nothing more than a memory—a primitive social construct from an age gone by, now obsolete.

“Right, and it was already mostly abolished by the time we were born, so...” I said, fumbling around for anything more I could possibly say on the subject. Strictly speaking, work had actually *not* been completely abolished yet—but the few remaining traditional jobs were all highly specialized and reserved for a small handful of uniquely qualified individuals. Still, it was something ordinary citizens never even had to think about, so from our perspective, it had indeed been effectively abolished. “Yeah, sorry... Not sure I’ve ever really thought about it that much. It’s just so far removed from my own life, y’know?”

“No, no! It’s fine!” he assured me. “That’s totally understandable. Sorry for killing the mood by bringing up such a strange subject. I’m pretty much in the same boat as you, honestly. Don’t know that much about work, nor do I really feel any desire to have a job myself. I guess I’m just curious, is all.”

“How so?”

“Well, I guess I just like to imagine these types of things. Like, if I were employed, what would my job be, and how would I feel about it,” he said. “That sort of thing. Would I find it fulfilling and want to keep doing it, or would I hate my life and want to quit?”

“Hm. Yeah, I guess that is kind of interesting to think about.”

Takasaki’s face lit up at this reply. He was very relieved that I’d finally taken the bait and shown an interest in this somewhat controversial topic, which he’d brought to the table knowing full well he might turn me off completely. And while I was mostly just being polite, he had piqued my curiosity about work—albeit in the same way one might find a history program and get sucked in to watching it. I tried to put myself in the shoes of someone who lived in the days when work was still an everyday thing for a majority of people.

“Well, I can only assume you’d feel a lot more stress than you do now,” I said. “I mean, when you have a job, you generally have a lot of responsibilities, no? Imagine being under that kind of pressure, day in and day out, where one little mistake could screw things up for a lot of people, and maybe even cost you your livelihood. It’s kind of stressing me out just to think about, honestly.”

All of what I’d learned in school came back to me now. To have a job meant donating your labor to an employer, taking on responsibilities, and suffering potentially brutal working conditions in exchange for some form of compensation. And once you got started, it wasn’t easy to change your mind and resign. Though I wasn’t entirely sure how that meshed with the whole “free labor” idea I’d read about, which supposedly allowed people to change jobs at will.

“True, but you also had the right to choose what you were or weren’t willing to put up with,” said Takasaki, almost as if he’d read my mind. “Everyone had the power to choose their own career. Though obviously, that all depended on your ability to establish a working agreement with your desired employer—er, that is, the people who gave out the jobs.”

“Couldn’t you also just work for yourself, though?” I asked.

“Well, yes, in a way. Supposedly there were people known as ‘freelancers’ and ‘sole proprietors’ who did essentially what you’re describing,” he said, spouting highly specific terminology right off the top of his head. He was clearly more passionate about this subject than he initially let on. “Basically, they were people who did their jobs all by themselves without having to answer to one specific employer. But even they had to participate in the system somehow,

trading their goods or services in exchange for remuneration. Because you can produce as much product or content or services as you like, but it's not work unless you get paid for it."

"Right..." I said.

The concept of payment was about as foreign to me as that of work. Obviously, people still produced plenty of things themselves in the modern era. But we couldn't really call it work, because nobody was compensated for their labor. For most of recorded human history, when people performed a job, they got paid for it in the form of "currency," which they could then use to "purchase" whatever needs or luxury items they could afford. The exchange of currency was an advanced form of barter, but the whole system of wage labor had already been abolished by the time I was born. My only firsthand experience with money was a vague memory of my grandfather showing me some coins and paper bills he'd kept stashed away from his own youth. To think our entire society once revolved around the exchange of those little pieces of paper. Such was the nature of the monetary economy.

"God, it all sounds like such a pain in the ass," I muttered, letting my disdain show with a disgusted sneer. I knew it probably wasn't the best way to endear myself to a man on our first date, but I couldn't help it—the mere thought was enough to annoy me. Thankfully, my date was kind enough to laugh it off.

"Yeah, definitely not the most efficient system, was it?" he said with a chuckle. "Imagine if every time you wanted to do or get something, you had to first convert something of yours into money, then go reconvert *that* into whatever it was you were originally after."

"What a waste of effort. So pointless."

"Mmm... I'm not sure I'd go quite that far. I think there was definitely good reason to have a system of stockpiling value one degree removed from the flow of trade, at least in the context of the time. You have to remember that scarcity of goods and resources was a big deal back then, so you couldn't always just get exactly what you wanted right when you wanted it."

"Right, so you'd have to wait, but you could hold on to the money in the meantime," I said.



“Easy to forget now that we’ve got more than enough of everything for everyone, isn’t it? Obviously, it helps that we mostly only produce things to meet the precise level of demand now, but still. I mean, do you have any idea how *small* people’s houses used to be back then?”

“How small?”

“Like, one bedroom or less, on average.”

“How is that not a human rights violation?”

He burst out laughing at this, but I remained completely stone-faced. I genuinely could not fathom anyone ever living in a space that small. Hell, even dog houses were typically a bit bigger than that.

“Just wasn’t enough housing space for everyone,” he explained. “At least not where the jobs were at. There weren’t dozens and dozens of vacant houses sitting around, waiting for anyone to move in.”

“But weren’t they building new ones all the time?” I asked. “Surely, you could eventually build enough to meet demand...”

“Not when you can’t afford to service and maintain them all properly.”

Finally, I saw his point. *Right, of course*. In the past, all of the necessary work to build, clean, and maintain housing stock was done by people. And that work cost time and money.

“In this modern era,” he said, “we can clear out as much land as we need, build houses as big as we want to, and easily keep them in perfect shape even when they’re vacant. But back then, there just wasn’t enough labor to go around. Or land, or houses, or resources, for that matter. So all people could really do was live in these tiny little dwellings, save up their money, and wait around until one of the few houses that not only met their needs, but was also within their means came on the market.”

“When you put it that way, I guess it makes sense that there wouldn’t be enough. Humans can only produce so much by themselves, after all.”

“I know it’s a little hard to imagine nowadays, but yeah. Back then, they didn’t have what we have now,” said Takasaki wistfully. He took a reverent pause

before intoning the name of our benevolent provider. “They did not have Titan.”

## 6

### TITAN

*That which works so that humanity might rest.*

*That which supports our species in every facet of our lives.*

*That which does both of these things simultaneously and automatically.*

*The common name for the comprehensive and wholly integrated AI processing network that manages virtually all modern industrial equipment, construction machinery, transit systems, and cleaning/utility services, in addition to a vast array of lifestyle support sensors and interfaces. Also: colloquial term for any individual node of the network.*

*In the latter half of the 21<sup>st</sup> century, major technological advances in the field of artificial intelligence gave rise to a massive boom in automated services and autonomous devices. All motor vehicle manufacturers transitioned to self-driving models, and great strides were made in industrial robotics, opening the door to fully self-regulated factories. The need for human labor input and even management gradually grew irrelevant, and before long, the majority of the sentient workforce was replaced by fully automated robots capable of maintaining peak productivity twenty-four hours a day. Though this ultimately cost most people their jobs, there was little in the way of social upheaval beyond the initial transition phase. While many skeptics were quite vocal in expressing their opposition, their concerns were soon allayed by the sheer uptick in productivity and output made possible by a fully automated economy.*

*No longer did someone have to work in order to put food on the table. Quite the contrary, in fact—food was more plentiful and readily available than ever now that humans abandoned the field. The advent of Robotic Process Automation (RPA) and its associated optimizations ushered in an era of plenty never before seen in history. And there was no key player, no facet more integral*

to this revolution than the introduction, during the latter half of the 21<sup>st</sup> century, of the universal standard AI known as Titan.

Primitive AI technologies existed even in the 20<sup>th</sup> century. But the market for such technologies was scattershot and slow to advance due to major corporations developing and patenting mutually unintelligible and competing AI systems. AI development would be stifled for decades until the United Nations Development Programme (UNDP) finally stepped in to resolve this state of affairs. The UNDP, in collaboration with teams from each of its most developed member states, spearheaded an ambitious project to develop a next-generation universal AI system. Their aim: to create a persistent AI constructed to adapt and evolve to meet the needs of human society indefinitely. And the only true way to ensure this longevity was to design an artificial intelligence not only based on human intelligence, but modeled after it.

In 2048, the UNDP announced its new universal standard AI format: Titan. It was a composite AI composed of both a core intelligence engine and several compatible branching subdivisions that could easily be further developed and iterated upon. True to the original developers' intent, that central intelligence core modeled after human intellect has remained completely unaltered for over 150 years since its inception, while the branching subdivisions and their corresponding applications have seen exponential evolution and are constantly being improved upon, even now. In a way, one could say that every AI system in use today is both Titan and a derivative thereof simultaneously.

Now, in the year 2205, Titan is more than one and a half centuries old, and its central "brain" continues to perform its autonomous functions in twelve interconnected AI facilities across the globe known as "intelligence bases." It is in these intelligence bases where the foundational Titan AI does all of its thinking—constantly racking its brain for our exclusive benefit, just as it has done since the end of the era of travail.

And now that all robotics across the world are connected to the Titan network, they have effectively become an aspect of Titan themselves. It is now commonplace to use the word "Titan" to refer to the AI network or its subdivisions, and the word "phalange" as a common noun to refer to any robot whatsoever.

I pored over the introduction of the treatise again and again. A lot of this was stuff I vaguely knew already, but it was good to augment that understanding with some facts. My view was soon obstructed, however, by steam from the two hot mugs that had just been wheeled out and left between me and the aerial holofield on which I was viewing the book. The autojееves, having successfully carried out its work, quietly scurried off back to its little alcove.

“Hope coffee’s all right,” Takasaki said as he came to join me in the center of the massive living room. I nodded approvingly, so he finally permitted himself to relax and sat down next to me on the floor. We’d come back to his place after dinner, which I found to be surprisingly spartan for a single twentysomething’s bachelor pad. This was clearly not a man with a very wide range of interests. He was currently in the process of showing me some books he’d recently acquired on the subject of work, per our dinnertime discussion.

“Work sure did change an awful lot right after Titan was introduced, didn’t it?” he said, reaching out his hand to swipe over to the next page. “Look, this is a picture of the average workplace from just before.”

I stared at the photograph. There were a bunch of tables arranged in a haphazard fashion across a wide open space with chairs clustered in between. I looked down at the caption and saw a word I didn’t recognize.

“What does ‘open-plan’ mean in this context?” I asked.

“Oh, yeah,” he said. “An open-plan office was basically just one big workspace where employees could sit wherever they wanted. Designed to give workers more freedom and make them feel more comfortable, I guess.”

“Seriously? *This*?”

I looked down at the photo again. There was not nearly enough room for anyone to call that comfortable. And the chairs were so close together, I didn’t see how anyone could be expected to focus on anything with another person sitting one seat over. First the thing about one-bedroom residences, now this. I couldn’t believe the brutal living conditions people from only a few generations ago apparently had to live with. Meanwhile, here we were in the modern day,

completely freed from the necessity to work, with goods aplenty to order at will from the comfort of our spacious living rooms. And we owed it all to Titan.

“God, we really are lucky to have been born in this day and age, aren’t we?”

“You can say that again...” said Takasaki.

Something brushed against my fingers. I looked down to see that he’d set his hand right next to mine on the rug. We looked up, our gazes met, and we both knew. We could feel the chemistry in the air. The matchmaking service had officially achieved what had been asked of it. And yet all of a sudden, I felt a wave of hesitation wash over me.

“Sorry, could you give me a minute? Where is your bathroom?” I asked, mercilessly killing the mood in one fell swoop.

As I stood there looking at myself in the bathroom mirror, I tried to think things over again. Takasaki was, by all appearances, exactly my type. By far the most appealing man I’d had the pleasure of meeting thus far, and I highly doubted I’d ever meet someone so impossibly compatible with me again. He was the ideal partner, as far as I was concerned.

And yet for whatever reason, my heart was pumping the brakes.

Maybe it was the way everything felt a little too perfect that unnerved me. Perhaps my brain was refusing to accept that this guy, who felt tailor-made for me, could possibly be real. Or maybe I preferred a bit more unpredictability, and the way everything was going so smoothly felt almost artificial. Whatever it was, I couldn’t explain it. All I knew was that from a logical standpoint, this was exactly the guy for me—but something in my subconscious was telling me I shouldn’t go through with it. And I generally trusted my intuition when it came to things like this.

I walked back out into the living room and did my best to force a friendly smile.

“Hey, sorry about that,” I said. “I think I should probably head home for the night.”

By the time I made it back home, it was already after midnight. As soon as I walked in the door, Titan informed me that I had one new message, but it would have to wait till morning. I was much too exhausted from the long day I'd had. I stepped up onto the zoomboard waiting for me in the entryway; I knew it was healthier to walk, but I'd done enough walking today for an entire month, so I felt entitled to a moment of laziness. Once I stepped aboard with both feet, the device set off gliding down the hall and brought me straight to the bathroom. Only once I'd stretched myself out in the piping hot bathwater did I start to feel the various tensions of the day begin to seep away from my weary limbs. When I got out of the tub, I headed over to the cooldown room and laid down on one of the lounge chairs. The conditioned air inside helped to gradually cool my flushed skin.

"Contacts," I said. Titan pulled up an aerial holofield in front of me displaying a list of all of my contact cards. At the top was the personal information card for my most recent contact: Takasaki. I thought back on what had transpired just two hours prior. While I did still wish I'd have gone through with it, there was also no need to rush these things. I could always contact him again whenever I wanted. And I had a long life ahead of me.

Technological advances had given humans much more leisure time than they once had. Not just because we no longer had to spend so much of our lives working, but also thanks to bold new medical innovations. The vast majority of diseases considered incurable even two hundred years ago were now all but eradicated in the modern era. Titan handled all medical research and treatment. Life expectancy had increased dramatically, and with the introduction of Planned Aging, people could now choose a life extension plan when young that made it possible to sustain peak physical health all the way up to the age of 150—though few chose to actually do so. As it turned out, not many people knew what to do with decades of free time and perfect health.

I put on the pajamas that had been laid out for me, then hopped back on the zoomboard, which ushered me out of the cooldown room and into the room next door. Once I was inside, the door shut behind me, and the lights turned on at the dim preset level. I was greeted by a wall covered top to bottom with developed photographs. This was my darkroom, which I used to develop

pictures I'd taken using a classic film camera—my longest-standing hobby and passion, aside from psychological research, of course.

I stepped off the zoomboard and walked over to my work table. The room was filled with a variety of specialized equipment—a water station, a wastewater station, a drying station, an enlarger, a retouching space, along with various chemicals and other tools—none of which would be necessary if I would just use an ordinary digital camera. Film photography was a very labor-intensive and time-consuming hobby, but that was exactly what I liked about it. When, on occasion, I tired of the exercise, I let my automated developer handle everything for me.

Once again, I thought back to my earlier conversation with Takasaki. Back in the days of the monetary economy, when scarcity was always a concern, I would have had to exchange money for each individual roll of film and think twice before each and every shutter click, all in the interest of conserving limited resources. Now, I could have as much film as I wanted without even having to ask; even if I forgot to resupply, Titan would ensure I always had a refill handy. Once again, I found myself feeling extremely fortunate to have been born in the current era.

I took a couple steps back and looked over my wall of photos as if scrolling through a list of thumbnails. All of my recent pictures had been taken locally and were fairly mundane. I traced my finger back along the line to the most recent batch of travel photos I'd taken, and realized that more than half a year had passed since my last trip. Suddenly, that familiar urge for adventure took hold of me once again. Tomorrow, I would research potential destinations. But for tonight, I was much too tired.

I stepped back on the zoomboard and rode it over to my bedroom, pondering drowsily as to what else I might do tomorrow. Not that it really mattered—I could just do whatever I felt like doing when the time came to decide. And if I changed my mind later, I could always stop and do something else. There was no urgency, and no outside pressure that could make me do anything other than exactly what I wanted to do. I climbed into bed, closed my eyes, and let sleep whisk me away. Titan, my ever-watchful companion, dimmed the lights down low—just as it knew I liked.



As I ate my breakfast the next morning, I checked the unread message I'd received the night before. It was a report on the status of the developmental psychology thesis I'd published last month, which had apparently done quite well for itself. I opened up the page to take a look, and saw that it had indeed garnered a fairly impressive number of views and user ratings. My work had achieved circulation well beyond that of my usual tight-knit community of loyal followers and had expanded into the wider social sphere, the result of it having been picked up by some larger scientific news outlets.

While I obviously didn't publish just for the clout, it still pleased me that my work had been read by a great number of people. There were far too many comments for me to reasonably read however, so I asked Titan to sort them in descending order of "things I'd most like to read" and "most valuable/constructive feedback." But while Titan's sorting algorithms were generally extremely discerning and reliable, they *did* make mistakes from time to time. Like just now—the number one comment the system returned wasn't even really a comment at all, but a mysterious photo of an indistinct, semi-transparent purple silhouette cast over a grassy meadow. I tapped the little icon to indicate that this was not the type of comment I was looking for, and the system quickly resorted the results in response to my feedback. This time, it did a much better job.

I glanced at the top few comments, which were primarily from passionate psychology enthusiasts like myself. There were even a few well-known and respected names among them, offering me constructive criticism and some much appreciated advice. One in particular that stood out suggested that I "might also find 21<sup>st</sup> century clinical psychology and its related literature of interest."

*Clinical?*

This was a word I had to look up. The dictionary even pronounced it for me, as Titan knew I'd never spoken the word aloud in my life. A "clinic" was a facility where sick patients could go to receive treatment or advice from employed medical professionals, and "clinical" similarly referred to the field of medicine

relating to the observation and treatment of patients outside of a theoretical or laboratory context. That is why it was such an unusual term—it was a remnant of an age gone by, when medical treatment was still administered by human hands, and there was an entire class of working professionals known as “physicians.”

Now, all of humanity’s medical needs were handled by Titan. Examination, diagnosis, medication, surgery—all of these were things that an AI was far more well-suited than we were. Humans were fallible creatures, and when lives were on the line, why would you not want to minimize risk factors? Automated medicine was simply better for all parties involved—though of course I knew that people in the past didn’t have that luxury.

“But what would clinical mean in a psychological context?” I wondered aloud.

I swiped over to my library. Titan had already predicted the terms I wished to search, and pulled up a list of results in descending order of relevance. Sure enough, there did indeed seem to be a field of psychology known as “clinical psychology,” and a related term “clinical psychologist” to refer to those who practiced it as their primary occupation.

## **CLINICAL PSYCHOLOGIST (COUNSELOR)**

A specific type of psychologist specializing in the treatment, mitigation, prevention, and study of psychological symptoms and abnormal behaviors resulting from various mental illnesses and psychosomatic disorders. May also refer to one whose focus is on the betterment, preservation, promotion, and education of mental health in a broader societal context.

*Interesting.* This did sound right up my alley. Apparently, educational facilities even used to keep “school counselors” on staff to help guide children on the path to becoming successful adults, which seemed to suggest a fair bit of overlap with developmental psychology. I found it hard to imagine that one or two clinical psychologists could possibly provide effective counsel for an entire school’s worth of students. That seemed more like a job for Titan to me.

My entire holofield was filled to the brim with new and interesting bits of information. Whenever a specific phrase or factoid caught my eye, Titan's predictive behavioral monitoring systems would sense my growing interest and bring up the exact information I wanted at that moment in time. I'd read that in the past, there was a type of worker known as a "valet" whose main job was to provide various kinds of support to another human being throughout their everyday life—so in a sense, you could say that Titan was humanity's collective valet. Here I sat, gazing out from my comfortable seat at the lovely trail of well-sorted articles and essays it had laid out before me. But just as I began to hunker down for a nice, relaxing morning read, a massive obstacle popped up on my screen—one that even Titan couldn't proactively clear away for me.

It was an appointment message from Takasaki, requesting a second date. I was a little taken aback by this; he was following up sooner than I expected, given how things ended last night. Normally, this might have come off as desperate, but I kind of liked that bumbling awkwardness about him, so he didn't lose any points with me. And considering I still was very interested in getting to know him better myself, I saw no reason to play coy. And so, after factoring in how long it would take me to get through this reading material and also bathe and make myself presentable, I told him I'd be delighted to meet up with him at eight o'clock this evening.

## **10**

The courtesy car dropped me off outside the bar Titan had selected for us with plenty of time to spare. I felt a little bad for making him wait for me at dinner yesterday, so I made a point of showing up a little bit early tonight. I stepped inside, then let one of the establishment's zoomboards ferry me to the private room we'd reserved. It was a nice, open space with a relaxed vibe and soft lighting emanating from the walls. When I sat down on one of the sofas in the center of the room, a list of recommended cocktails appeared on the holofield in front of me. I ordered something light to start off with. I wouldn't have minded something a bit stronger, honestly, but I knew I should probably show a little restraint around a guy I'd only met yesterday.

When I thought back on how antsy he'd been yesterday, I couldn't help but

smile. Granted, I'd been a little on edge going in, with it being my first matchmaker date in nearly two years, but he was much more nervous—which made it a lot easier for me to let my guard down and act natural with him. We really were exceptionally compatible with one another, and I hoped that we could grow a little bit closer today. Gone was the vague sense of hesitation I'd felt last night. I was fully prepared to have faith in Titan's judgment and take things to the next level.

After some time, the door clicked open, and I turned to look. A frown crept across my face as I saw that a man had joined me in the private room—but this was not Takasaki at all. That much was clear even at this distance. He was far taller and his skin much tanner—though more than anything, it was his attire that gave him away. This towering gentleman was wearing a very peculiar outfit that you almost never see nowadays, even in the big city. A jacket, a button-up dress shirt, a necktie, and a pair of slacks that together composed a very specific type of outfit, the name of which I knew I'd heard before... *Oh, yes. That's right.*

It was a suit.

The man sauntered over to where I was sitting. He wasn't ethnic Japanese. He looked to be in his early forties, but his facial features were not those of an East Asian—they were more finely chiseled, and his dark brown complexion led me to believe he was from India or elsewhere in southeast Asia. Though perhaps even more striking to me than his distinctive features was his unrelenting gaze. The icy look in his narrow eyes felt sharp enough to kill a man. Coupled with his strange attire, it was enough to make him look like an organized crime kingpin straight out of a period drama. He spoke not a single word as he walked over and helped himself to a seat on the sofa opposite me. I was flummoxed.

"Pleased to meet you," he finally said—and in such fluent Japanese that at first, I couldn't believe my ears. All I could do was tilt my head in confusion.

"Um, sorry. Did I get the wrong room by mistake, or...?" I asked.

"Oh, I assure you, there's been no mistake, Dr. Seika Naisho," he said. "I'm afraid Naoyuki Takasaki will not be joining us tonight."

"And just who are you?"

The man held out a small rectangular piece of paper, which I hesitantly

accepted. Printed on it was a name and address and so forth—a sort of personal identification card, not entirely dissimilar to the digital contact cards of the Titan network. But why in the world did he hand me this information on a piece of paper?

“My name is Narain Srivastava,” he said. “My title is on the card, if you care.”

“Sorry? Title?”

“Right there above the name.”

He pointed, and I looked down at the paper card again.

*Director of Safety Administration,  
Second Intelligence Base  
Intelligence Base Administrative Bureau*

Upon reading this, I discerned what he meant by “title.” It was an indication of societal status and the duties entrusted to him—his *job* title. In other words, this man who called himself Narain was a member of an exclusive class that only a handful of people around the world could claim to be a part of. This man was *employed*.

“I know it says ‘director’ on there, but that’s more a testament to how short-staffed we are, more than anything,” he explained. “Everyone’s always getting shifted around, and promoted, and relocated all over the damn place.”

The man spoke with a joking candor, but his expression was anything but amused. I couldn’t tell what reaction he expected from me; I was still struggling to wrap my mind around the whole situation. Why in the world was a member of the employment stratum here, speaking to someone like me? And how did he know my name?

“I’ll give you the full rundown here in a minute, but for now, I’ll just cut to the chase. Dr. Naisho,” he began, piercing me with his frigid gaze, “I have a job for you.”

“A job?” I said, eyes wide. “You want me to *work* for you?”

“That’s correct,” he said, then looked down at the menu on the holofield in front of him and ordered a drink for himself. “Now, I’m afraid there’s only so much I’m at liberty to tell you at this point in the process, and we’re running short on time as it is, so you’ll have to forgive me if it sounds as though I’m oversimplifying. Basically, we’re putting together a team for a very important project, and we’d like you to be a part of it. As a psychologist, that is—and as a specialist in developmental psychology, in particular.”

Narain began to manipulate the holofield in front of him with his fingers. Before long, the bar’s drink menu disappeared, and in its place appeared the very same thesis I’d posted last month.

“We’re currently looking for talented personnel with an acute understanding of human psychology,” Narain said. “We read your thesis, Doctor. And based on our internal calculations, which took a weighted average of a candidate’s various abilities such as general intelligence, technical ability, and areas of expertise, we’ve determined that you are the most qualified candidate for the job. We’re very impressed with your credentials, and are determined to have you come and work for us.”

“Work...” I said, letting the word linger on my lips once more. And to think that work was a concept I’d never given any serious thought before yesterday. “This project you mentioned, what exactly does it entail?”

“I’m afraid the details involve significant classified information, so I can’t give you specifics here. You’ll be fully briefed after you’re brought on board.”

“Would this be particularly *strenuous* work?” I asked.

“Not at all. It’s a very simple job, actually,” Narain said with a straight face. I frowned skeptically, but his expression remained unchanged. Something told me he was lying and that this would actually be an extremely difficult job—though I had no way of proving that. “In any event, Doctor, I’m afraid I’ll have to request an immediate answer. As I said at the beginning, time is of the essence.”

Just how pushy could one man be? An autojееves came into the room, delivered our two drinks, then saw itself out again. Narain had ordered a whisky

on the rocks, which he helped himself to as he awaited my answer. It seemed I had no choice but to consider this unpleasant man's proposition.

An actual work opportunity—I'd have been lying if I said I wasn't curious. It was a part of the world I'd never even brushed up against before. A black box that the vast majority of people would never have the chance to experience. So of course, there was a certain thrill to the prospect of being offered a peek inside. That said, curiosity was not enough to override my misgivings. Even with the understanding that I would be working in my specific field of interest, there was a distinct difference between doing something as a hobby and doing it for a job. All of my preconceived notions about work flashed through my mind. Taking on responsibilities. Stress. Exhaustion. An inability to stop once you've started.

"I'm afraid I'll have to decline," I said at last, after weighing the pros and cons.

"You're sure we can't work something out?" he asked.

"It's a very enticing opportunity, I'll admit," I said, with an apologetic bow of my head. "But it's just more responsibility than I'm prepared to accept, especially if I have to do so sight unseen."

Narain let out an overdramatic sigh. I looked up and saw that he was now lying back into the couch cushions, his arms folded and his face an unamused rictus. His irreverent attitude was really starting to annoy me.

"You're very aggravating, you know that." I said matter-of-factly.

For a split second, Narain looked taken aback. But he quickly regained his composure.

"Well, aren't we blunt, Doctor?" he said.

"Only because I find you extremely disrespectful."

"Let me tell you something, Doctor. If you ever were to work for me, or anyone else for that matter, you'd be forced to deal with other people on a daily basis—some of whom you might not like very much. That's just part of having a job. It's called sucking it up."

"Well, that sounds highly unappealing and frankly absurd to me, so thank you



for affirming that I made the right decision.”

Narain took a breath, then sat up straight again. With a few quick finger gestures, he opened a new holofield in an empty pocket of air displaying some sort of documentation and mirrored it on the display in front of me as well. The document was written in stiff officialese that I found difficult to decipher at a glance.

“What’s this?”

“A criminal accusation report,” said Narain, tracing his fingers along the words as he spoke. “You, Dr. Naisho, stand accused of visiting the private residence of the victim, one Naoyuki Takasaki, at approximately 10:30 PM last night.”

I felt my brow reflexively furrowing. “*Victim*”?

“Whereupon you proceeded to rape him.”

“I beg your pardon?” I said, my eyes going wide as I scanned the document for myself. When I reached the “Victim Report” field, the words “without consent” immediately jumped out at me.

“At just after 11 PM,” Narain continued, “you propositioned the victim to engage in sexual intercourse, which he refused. You then forced penetration without his consent. You are therefore charged with forcible sexual intercourse, a crime that carries a minimum statutory penalty of five years. Though you may be a first offender, your violent and underhanded modus operandi would make a prison sentence very likely, especially given the legal precedent set by Titan’s judgments on similar cases.”

“That’s a completely groundless accusation,” I said, though I was rather shaken. “Is this some sort of farce? Literally nothing happened between us last night.”

“I’m afraid the evidence begs to differ,” said Narain, directing my attention to some new information that had just appeared on the holofield. It was some sort of diagram littered with various labels that combined letters and numbers in some bizarre citation format. The diagram was captioned GENETIC LOCI. “It seems they were able to extract your DNA from bodily fluids left at the scene of the crime.”

“What? There were no ‘bodily fluids,’ I assure you.”

I played back the sequence of events that had transpired the night before in my head. He guided me into his living room, let me browse through his book collection, brought out some coffee, and then...

*I went to the bathroom.*

“You didn’t...” I muttered. If looks could kill, he would have died on the spot, but he seemed completely unfazed.

“Now, mind you, what I’m about to say is purely hypothetical,” Narain said. “But let’s say you were to agree to sign on to this little project we’re putting together. I don’t think it’s altogether unreasonable to assume that in that case, perhaps a little butterfly down in Brazil might flap its wings and set off a tornado that could whisk this silly accusation away, never to be seen again.”

I connected the dots, and the full picture was looking rather grim for me. The absurdly high compatibility rating that Titan’s matchmaking service had given Takasaki. The way he’d been so curious to know how I felt about work as a concept. And now I’d shown up for what I expected to be a second date, only to be approached with a job offer by this strange man instead. A man who apparently worked for the Intelligence Base Administrative Bureau. A man whose job entailed the management of the very same network that originally connected me with Takasaki.

“You were trying to entrap me all along, weren’t you?”

The ice crackled in his rocks glass.

“This is a project that absolutely must succeed, no matter the cost. There’s no room for failure. And we need your help whether you like it or not. Even if we have to resort to unlawful means to get it,” he said, lifting his glass up off the table. “Oh, and by the way—once work actually begins, you’ll be given your own official position, answering directly to me. So allow me to begin your orientation, as your new supervisor. Do you know what we in the business world say to our colleagues when they accomplish a task with flying colors? Like, for example, me successfully bringing you on board exactly as I planned. What would you, as my subordinate, say to me in such a circumstance? Any idea, Naisho?”

He saw no need to use my academic title now that he was my superior and I his...*employee*. He raised his glass higher, as though preparing to make a toast, and cracked a smile for the first time since he arrived.

“We say, ‘Great work.’”

It was the most infuriating smile I’d ever seen.

## 11

I set down my mug of milk tea and gazed out the window at the vast green plains spread out beneath me. Unlike the isle of Honshu, which by now had been almost entirely developed, there was still plenty of untouched wilderness and sprawling flatlands up here in Hokkaido.

It had been two days now since Narain Srivastava forcibly recruited me, and I was currently on my way via air transit to the Kushiro Conurbation in the eastern part of Hokkaido. It was one of fifteen such conurbations on the island, spanning nearly 6,000 square kilometers and home to around 1.2 million people. It was also where I’d been asked to report for my first day on the job—the home of my very own “workplace.”

I could feel my stomach starting to churn all over again. Obviously, there was nothing I could do to fight back against Narain. Had I turned down his request, I would have been tried in court on false charges, found guilty, and sent to prison, just like he said. There, I would have been forced to undergo a program designed to rehabilitate felons—though I had no idea how that might work on the innocent. I was already sound in body and mind. What scared me more than anything, though, was that I simply didn’t know what life in prison was like. We’d made great strides in the modern era to ensure that prisoners’ basic human rights were never violated, but something told me that access to milk tea wasn’t one of said rights, and I wasn’t going to risk finding out. I had no choice but to submit to that unsavory man’s little scheme and accept the job, and thus become traditionally employed for the first time in my life. *Well, look on the bright side—it can’t be worse than prison*, I told myself as I filled out employment forms to make the flight go by quicker.

I scrutinized the document on my holofield once more. It was a Bureau

Onboarding Agreement from Narain. It read less like an agreement and more like a sworn oath.

### ***BUREAU ONBOARDING AGREEMENT***

*I hereby pledge my full intent to accept the position that has been offered to me by the Bureau. With this signed agreement, I acknowledge that I have accepted the Bureau's job offer, and will abide by the following terms.*

- 1. Following submission of this signed agreement, I will not rescind my intent to join the Bureau without good cause.*
- 2. I agree to abide by all rules, requirements, and policies as stipulated by the Bureau in the Conditions of Employment.*
- 3. I will submit all documents required by the Bureau in a timely manner.*
- 4. I will never make false statements to the Bureau for any reason.*

I hadn't even begun to work yet, but I could already feel a headache coming on. What was even the point of a document like this? Did they really think they could compel honesty with a signature on a little agreement? I'd always thought the entire point of having a fully integrated AI network was to stop wasting people's time with redundant, meaningless paperwork.

I turned the page and came to the section entitled "Conditions of Employment," which was an even longer list of rules that I was not about to read under any circumstances. They couldn't make me read or sign any of this; I dismissed the holofield and made the executive decision not to waste any more brain power on this bureaucratic nonsense. Just then, I heard the *shwip* of my seat belt tightening about me, and I looked out the window to see that we were

making our descent into one of the local stations.

After a remarkably soft landing, I undid my seat belt, grabbed my luggage, and stepped out of my private compartment and off of the plane, where I was greeted by a large sign reading TESHIKAGA STATION. A moment later, the doors closed behind me; though it was a six-seater transit plane, I'd been the only one on board. I'd read that in the old days, when fuel was scarce, they used to cram hundreds of people onto a single massive aircraft, and there were only a small selection of "airports" one could actually fly to.

The plane immediately pivoted and took off again, flying back toward Tokyo. I spotted a car I could only assume was my ride driving up to the lot. I found it baffling that it hadn't been right here waiting for me, considering courtesy cars were fully automatic and had access to the plane's flight plan. Perhaps Titan didn't work quite as efficiently out here in the country as it did back in the big city. Either way, the car rolled up in front of me—but when the back door opened, I scowled.

"Get in," Narain said.

## 12

"I see you failed to submit those documents I sent you."

"Why would I ever do something so obviously pointless?" I was grouchy, not even attempting to hide my unhappiness at his presence. He shot me a look, then exhaled loudly.

"Well, I suppose you don't have to if you don't want to," he said. "It's more of a formality than anything."

This time, it was me who furrowed my brow and shot a look at him. So it really was pointless, then. Had he just been wasting my time as a joke?

"Don't get it wrong. All I said was you don't have to do it," he added, reading my reaction. "I never said it was pointless."

"Oh, really? Then what's the point?"

"Imagine you had to work to survive, and I'm your prospective employer. I've got the power in this relationship, because you need this job to put food on the

table. But I've also got a business to run, and profits to make, so I make you promise me that you won't walk off the job or be insubordinate. Because I can. I'm the one offering the job. That's what contracts are for—to make sure the employee always gets the short end of the stick. Been around for as long as the idea of work itself."

"They sure loved their corruption back then, didn't they?" I said, thoroughly disgusted. From the way he made it sound, work was little different from ancient slavery. They'd dressed it all up to look more presentable with modern laws and contracts and so forth, but the core idea remained the same.

"Anyway, I won't sit here and insist that you sign the contract," Narain said. "But you do at least need to be aware."

"Aware of what?" I asked.

"That all work is predicated on antiquated customs, even now."

"Oh, so did you sign such a contract?"

"Not saying that."

I tilted my head to the side; I had officially lost the plot. I couldn't possibly fathom what significance contracts could have if nobody ever signed one.

The car whizzed down the streets of metropolitan Teshikaga. With its rows upon rows of high-rises, it didn't look all that different from Tokyo. While there was obviously plenty of undeveloped land up here compared to Honshu, the urban zone was fairly built up.

Land development was one of Titan's most important tasks. All across the world, its vast network of automated heavy machinery worked ceaselessly to flatten hillsides and alter terrain in accordance with the grand long-term development plans the AI had envisioned. Which did of course account for things like balancing sustainability with the overall rate of societal expansion, but with more than half the earth's land still completely untouched by humanity, the common understanding was that we wouldn't reach the point of equilibrium for many generations to come. And so Titan's heavy machinery geoengineered the very planet, reclaiming land by leveling mountains and filling in the seas—though always with a team of environmental protection phalanges

in tow to help preserve the local ecosystems. It was thanks to this that we finally had access to more land than we could ever possibly want, and could have Titan develop it for us however we saw fit.

The city of Teshikaga in the Kushiro Conurbation was one of the very first areas in the entire world to experience geoengineering at Titan's hands. The reasons for this were twofold.

Once out of downtown, we traveled through vast fields of lush greenery. We'd just crossed over the line where Titan had delimited the border of urban development. From there, the road sloped upward, and the car began a valiant ascent up the small mountain. Not ten minutes later, we arrived at the summit, and a panoramic view splayed itself across the tempered glass windows. It was a blue more brilliant than the sky, emerging from the very earth.

"Lake Mashu..." I whispered reverently, letting the name of that ethereal pool linger softly on my lips. Surrounded on all sides by a steep volcanic crater, its waters were supposedly the second clearest in all the world. With its surface spanning twenty square kilometers, and with a depth of over two hundred meters, it bore such spiritual significance to the Ainu people that they dubbed it the Lake of the Mountain Gods. I quickly reached into my bag and pulled out my camera. I rolled the window down and snapped a shot of the gorgeous scenery, capturing it forever in silver nitrate. With the inverted clouds reflected perfectly on the mirror-like surface of the still lakewater, I almost couldn't believe it wasn't CG. This view alone was worth the plane trip.

One of the two reasons Teshikaga was developed so early on was its close proximity to Lake Mashu, one of Japan's premier natural wonders. Sites that drew a large number of tourists constantly going in and out were given higher priority for immediate development. What was once a small town of fewer than ten thousand at the start of the 21<sup>st</sup> century had now ballooned in size to a city of over four hundred thousand. Lake Mashu and the other natural wonders in its surrounding area were largely responsible for this population boom in the Kushiro Conurbation, as scenic sites that held mass appeal even overseas.

I peered out at the lake from the left-hand window as the car made its way along the rim of the crater. After a while, an even higher peak came into view,

right along the outer rim. It was Mount Kamui overlooking both the lake as well as the smaller, adjacent explosion crater formed on the southeastern edge of the caldera by a volcanic eruption many thousands of years ago. Peeking out over the edge of this higher, smaller cone was the upper half of a massive spherical construct, its surface covered in a whirl of pure white and transparent plasma clouds. These two distinct surface factions were in a constant state of flux, always changing shape and shifting around each other to form peculiar patterns. Whenever a section of the sphere's exterior turned transparent, I could see the complex internal structures within.

"Say hello to the Electrode," said Narain. "It's a hybrid power generator that harnesses solar, wind, and geothermal energy to create enough electricity for the entire facility."

I looked up at it through the windowpane. A giant cylindrical tower stood erect from the center of the orb, like a stake piercing it right through the heart. And on that tower, a single massive numeral was written: **2**.

This was the second reason Teshikaga was developed so quickly—because it had been chosen as the construction site for the Second Intelligence Base of the Titan AI network, one of only twelve such facilities in the entire world.

The car glided toward the base of the Electrode. At the foot of the mountain was a large pair of mechanical double doors with another large number two painted on them. The gate opened for us automatically, and the car proceeded through the tunnel and into the mountain's interior.

## **13**

"Each intelligence base houses the hardware necessary to keep the Titan network up and running." Narain was giving me the basic rundown on my new workplace as we continued deeper into the long tunnel. "More precisely, the AIs housed at each of the twelve bases are not identical. Each has its own individual quirks and specialties."

"Wait, so they're not just interconnected pieces of one larger AI?" I asked.

"No, they're collaborating parts of the larger AI *network*. The earliest instances of Titan, dating back to the construction of the First Intelligence Base,



were fairly general-purpose in nature. But as more bases were constructed, and the AIs continued to collaborate and interface with one another, they eventually started doling out more specialized roles and functions to the newest members of the network. Or to put it another way: Titan decided for itself to decentralize and specialize as the network branched out and continued to evolve. So just as the earlier bases contain the most general-purpose AIs, the more recent bases house the most unique and specialized ones.”

This was the first I’d ever heard of any of this. I’d always thought that Titan was just *Titan*—simple as that. Though considering it was a system designed specifically to make people’s everyday lives less complicated, perhaps we had all been fed a less complicated version of Titan’s workings on purpose.

“So what about here?” I asked. “What’s this base’s AI like?”

“Pretty far on the general-purpose end of the spectrum,” said Narain.

Out the window, the tunnel’s light gray walls rushed past. Even intelligence bases were largely built from the same photopolymer used to create our towns and cities—though here, there were no colors or words or symbols adorning any of the smooth surfaces. While these things were necessary at least to a certain extent in places designed to be accessible to large numbers of people, here they really only had to worry about a handful of human employees. There was no need for signage in a tunnel used almost exclusively by service phalanges.

“By the way,” Narain went on, “in addition to being numbered one through twelve, each Titan AI has also been given a unique nickname.”

“What, like...Fido, or Buddy?” I said.

“Remind me to never come to you for pet name ideas.”

I was about to object, but then I remembered the two cats I had back at my parents’ house were named Calico and Tiny, so I kept my mouth shut. Though personally, I was of the opinion that names didn’t matter too much so long as you could distinguish one thing from another. If we’d only had one cat, I probably would have just called it Kitty.

“Well, not that the Bureau had the most creative naming sense either,” said

Narain. “They just named each of the twelve Titan Als after the pre-Olympian gods from which the word ‘Titan’ was originally derived.”

“Ah, Greek mythology. Of course”.

“Correct. The twelve children of the earth and heavens, or Gaia and Uranus. Oceanus, lord of the seas, Crius, who reigned over the stars, Hyperion, ruler of the skies, Theia, mistress of all that shines...”

“Which one is ours named after?”

“Coeus, master of intellect. One of the six males of the Titanic pantheon.”

So now not only were we ascribing names to the Als, but genders as well? If they were so determined to select names with mythological significance, why not just appropriate a group of androgynous deities and make things less convoluted?

Finally, the car reached the end of the illuminated tunnel, which emptied out into a much larger and brighter space—a vast underground hangar large enough to house a sports stadium. Filling this open space was what appeared to be a little town. A large-scale apartment complex, streets lined with trees, a central courtyard that almost looked like a public park, even a few different little stores—it was like someone had liberated a single neighborhood out of an actual city and buried it underground.

“Anything you could ever need, you can find right here, so feel free to make ample use of the facilities,” Narain said. The unstated implication of his words was that this place had been specifically designed to ensure I never had a justifiable reason to leave my post and could just focus on work twenty-four hours a day, seven days a week—but it sure sounded a lot nicer the way he said it. I let out a heavy sigh. My work hadn’t even begun yet, and already I wanted to quit.

## **14**

I sped down the facility’s pristine main corridor on my zoomboard. I hadn’t even had a chance to take a breather in the private living space they’d allocated to me before being immediately summoned to report to work. Admittedly, the

line between home and work began to blur when it all took place in the same homogenous underground facility.

As I made my way forward, I pulled at the sleeves of my new outfit—the uniform they’d laid out for me in my quarters. It was a modest gray work jacket with a zipper running right down the middle—clearly designed with function over form in mind. The words SECOND INTELLIGENCE BASE were emblazoned on the chest, beneath which they were kind enough to include a little profile of the wearer (in this case, me), whether they liked it or not. (I didn’t.) I could only assume this was meant to serve a similar function to that little card listing Narain’s job title, but I had to say it felt pretty strange to me that they seemed so concerned with being able to easily tell people apart while also forcing them all to wear the same generic outfit. There were admittedly some schools that still mandated uniforms for their students, but forcing an adult to wear one just felt gross to me.

Another thing that struck me as strange was this corridor—it was eerily clean. Granted, most of the developed world was quite clean and sanitary thanks to cleaning phalanges, but this place was so spotless it almost looked simply unused. Just how many other people worked here, aside from me?

It was then that I noticed the hum of another zoomboard’s drive overlapping with mine. I turned around and saw a man zooming toward me. His bristly black hair was shorn close to his skull, and he looked to be Asian at a glance—but more than anything, he was an absolute mess. His uniform jacket was threadbare in spots and draped haphazardly over his torso. His eyelids drooped, a patchy and uneven beard grown purely out of laziness, and when he scratched his head, flakes of dandruff came drifting down like snow. This unkempt fellow was clearly in more of a rush to get to wherever he was going than I was, yet upon noticing me, he brought his zoomboard to an abrupt stop, so I stopped mine in turn.

“Whoa,” he muttered with half-lidded eyes. “What’s a chick doing here?”

I frowned at this, of course. These were the first words out of his mouth, and already he’d managed to lower my initial impression of him even further.

“Ah, yeah. You that new hire Narain was talkin’ about?” he asked.

“Yes, hi. Seika Naisho. Nice to meet you,” I said, affecting only the bare minimum politeness. The man flashed me a flippant grin. His was clearly the face of a man who didn’t know how to take anything seriously. He looked slightly older than me, but definitely younger than Narain.

“Name’s Lei Yougen,” he said. “But you can just call me Lei.”

“Chinese, I take it?”

“Yep. I’m an engineer. How ’bout you?”

“Japanese.”

“No, ya dink. I’m asking what you specialize in.”

“Oh. Psychology, I suppose.”

He cocked his head to the side, clearly puzzled by this. “Uh, and how exactly is that gonna help us out here?” he asked.

“I’m afraid I’m as clueless as you are on that front,” I said.

“Yeesh, really? Well, whatever. Just gotta do what the bossman tells you to and I’m sure you’ll do fine around here. Me, I’m just glad to have another pair of hands on deck.” He then proceeded to let out a massive, shameless yawn. This man was just as unpleasant to be around as Narain was—albeit for completely different reasons.

“Man, I’m gonna need a nap here pretty soon. So pent-up with stress lately, I can’t even sleep. Hey, wait a minute,” said Lei, suddenly leering at me with a devilish smirk. “Is that the *real* reason they brought a woman in here? To help us guys blow off a little steam?”

I glowered at the human ball of filth with every ounce of disdain I could muster.

“Sheesh, lady,” he croaked. “It was just a joke... No need to give me the death glare. ‘Specially when it sounds like we’re gonna be workin’ together for the next little while.”

He was right, and this was not a thought I found appealing in the slightest. Was I really expected to just smile and get along with lowlife men who made sexist “jokes” about women purely because my employer put us on the same

team? That didn't sound like a healthy work environment. That sounded like hell.

"Anyway, c'mon. We'd better get going," said Lei, pointing down the hall as he whizzed past me. "You're headed to the all-hands meeting too, yeah?"

## 15

The four of us who'd actually shown up for the meeting sat in a square formation at the center of a conference room clearly designed to accommodate several hundred. Narain, who I'd last seen only two hours ago, started off by introducing the older gentleman seated diagonally to my side.

"This is Professor Horst Beckmann," he said. "He's one of the preeminent scholars in the field of AI research, and we've selected him as this team's project lead. He'll be the one designing and adjusting the plan of action as the project moves forward."

"It's a pleasure," said Professor Beckmann as he rose from his chair to reach across the table for a handshake. As I stood up and did the same, he flashed me a modest, well-mannered smile. As far as first impressions went, Beckmann had easily made the best one thus far. And from what it sounded like, he even commanded Narain's respect—something I didn't know was even possible.

"If he's the project lead, then what does that make you?" I asked Narain.

"I'm the on-site manager," he answered gruffly.

I had no idea what the specific difference between a manager and a lead was supposed to be, but it didn't seem like he had any intention of explaining that to me.

"Lei here is our multi-talented engineer," Narain continued. "Handles both software and hardware. He's the one who'll be doing most of the actual heavy lifting."

"Just so we're clear, I only do both because they *still* refuse to bring in any help for me," said Lei, clearly disgruntled.

"Yes, I'm aware."

“Awright. Just making sure,” said Lei, scratching his laziness beard with a look of resignation on his face. From what I could gather, it sounded like the engineer had by far the most labor-intensive job.

“Gentlemen, this is Dr. Seika Naisho,” said Narain when it was finally my turn to be introduced. “She’s a psychologist, specializing in developmental psychology.”

“It’s a pleasure to meet you all,” I said.

Narain didn’t even acknowledge this, and Lei merely let out a wolf whistle. It appeared my assessment of Professor Beckmann as the only decent man here was holding water.

“So,” I began, trying again to get Narain’s attention. “Is there anyone else who works here?”

“This is everyone,” he said.

“Right, okay.”

I’d kind of suspected as much, but I still couldn’t help but feel discouraged at this confirmation of my anxieties. The lifeless residential block. The spotless, squeaky-clean main corridor. No humans actually lived here—all of the necessary tasks were handled by Titan, just as they were outside. So then, why were the four of us even here? Surely the AI could handle the work of another four humans, no sweat.

“All right, people. We don’t have much time here,” said Narain. “Let’s dive straight into the project briefing.”

“Begging your pardon, Narain,” Professor Beckmann cut in, “but have you shared any of the critical project data files with Dr. Naisho yet? Especially those pertaining to how Titan AIs actually function?”

“No, I was just getting to that.”

“In that case, might I suggest we do a bit of an on-site walkthrough, instead? Could be good to show her the room she’ll be using, at least. We just put the finishing touches on it while you were away.”

Narain thought this over a moment before giving the green light. Professor

Beckmann stood up from his chair, then gestured for me to do the same.

“Let me give you the grand tour,” he said.

## 16

“He’s a real no-nonsense type, isn’t he?” said Professor Beckmann.

“Serious to a fault, if you ask me,” I said.

“That’s an apt way of putting it, yes.” Professor Beckmann cracked a wry grin, which I returned.

The two of us were currently headed deeper into the facility on a multi-passenger zoomboard with a protective outer railing. Narain would supposedly be joining us later, while Lei headed to the break room to take a nap after confirming that his presence on the tour would be superfluous. For now, it was just me and the professor—and oh, how delightful it was to have a normal conversation without either of them around to sour the mood.

“But we need people like him in the workforce,” the professor went on. “If it were all just passionate researchers like you and me, we’d never get anything done in a timely manner. We’d fight for every last second we could get.”

“Is that such a bad thing?” I asked.

“Yes. Work has deadlines. And those deadlines are usually decided by someone other than the employee. People like Narain, they specialize in making sure the work gets done while also conforming to external factors like that.”

*Aha. So that’s what being a manager entails.*

To be sure, when you were simply doing something as a hobby, you could start and stop whenever you pleased. You could spend your whole life perfecting a single piece of work, even. But when you started imposing deadlines, everything changed. Not many people were productive under pressure, and it was the manager’s job to find a way to work around that—either by bringing in additional outside help, or by finding more uniquely qualified candidates. If you ask me, when you’re willing to resort to unlawful tactics to achieve your goals, you were less a manager and more of a common thug. The whole blackmail thing hadn’t left me feeling very motivated to get the

job done right, at least. And it showed, because Professor Beckmann soon floated me a question on that very note.

“You’re not feeling very enthused about all of this, are you?” he asked.

“No. Not in the slightest,” I answered. At this, the professor could only smile sheepishly. I felt a little bad for being so blunt, but I wasn’t about to sugarcoat it for him either.

“Well, then I suppose we’ll just have to use this tour as a means of sparking your interest a little bit, won’t we?” he said, regaining his composure. “Titan’s AIs are quite fascinating, you know. Why, I’d even be tempted to call this work ‘fun’ if that weren’t so irresponsible.”

“How is it irresponsible?” I asked.

“Well, when a billion people’s livelihoods depend on something, you generally want to treat it with the appropriate level of gravitas.”

That was quite the imposing number. The current world population was around 12.5 billion people, and there were twelve intelligence bases, so indeed each one was responsible for a little more than a billion people, assuming they split the work evenly. Though I was fairly certain their internal logic for divvying up tasks and responsibilities was a bit more complicated than that.

“It’s our job to keep this system under control, and that’s a massive responsibility. However...” the professor trailed off, before shooting me a sidelong glance and a little smirk. “I’d be lying if I said it wasn’t also kind of fun.”

I was immediately endeared to Professor Beckmann. I could feel a sort of mutual understanding beginning to take root between him and me, not unlike sympathy. He knew the gravity of the work entrusted to him and approached it with the proper sense of duty. Yet he also couldn’t contain the part of his character that took great delight in his work and found personal enjoyment in it despite the overwhelming pressure. I could tell he was an honest man at heart, both for better and for worse.

“I honestly don’t know any more about Titan or AI than the average person,” I confessed, hoping to kickstart a conversation. “Well, and a few other things Narain mentioned to me on the way here, I suppose. But if you could enlighten



me a bit more on how this all works, I'd very much appreciate it."

Professor Beckmann nodded, then turned his gaze to look straight ahead down the corridor. Our Titan-controlled zoomboard was still advancing ever deeper into the depths of the facility.

"Titan was originally developed to be a universal standard AI format, with the express goal of helping society run more smoothly," the professor began, with the intonation of a public speaker launching into a prepared lecture. "Its core design philosophy was to 'create an AI based on human intelligence'—the idea being that the best way to make a system so intuitive it could never be outmoded by societal advancements was to make it think in the same way people do. That way, no matter how quickly it expanded and developed new applications for itself, if it were to ever encounter a problem, it could always defer judgment to that unwavering human element at its core. Such is Titan's underlying principle—to be a standardized AI support system for all of human society."

I nodded along. This all lined up with what I'd read in that publication a few days prior—though upon remembering the exact circumstances under which I'd been exposed to that information, I started feeling irritated all over again, but I kept that frustration to myself. Professor Beckmann had nothing to do with that incident.

"Now then, Dr. Naisho," he said, turning to face me again. "How exactly do you think one might go about creating an AI based on human intelligence? Any ideas?"

"I guess you'd probably have to do a lot of research on how our biological thought processes work," I said. "Or try to analyze and digitally reconstruct our brain anatomy, perhaps?"

"You've got the right idea," the professor said, nodding. "And indeed, that was exactly how the project's researchers first approached the problem, a century and a half ago. But, they just couldn't pull it off."

"Why's that?"

"Well, for one thing, our neurology is much too complex. Not the sort of thing that can be fully understood with any amount of analysis. Now, perhaps they

could have decoded the central mechanisms that guide the *average* person's thought processes. The type of person who lives a normal, unremarkable life, and dies a normal, unremarkable death. Maybe they could have even developed a fairly convincing 'everyman' model that could reliably emulate such a person's cognitions—but that alone would not be sufficient. Because we're not all clones, and our society contains far more than just your stereotypical human beings who fit into that relatively simple mold."

"Right, you'd have to account for geniuses and sociopaths too..."

The professor nodded emphatically. "Precisely. A truly comprehensive AI support system on the societal scale would have to be able to parse and incorporate all kinds of mental irregularities. But that's a slippery slope, because every person who's ever lived is 'irregular' in one way or another. You'd have to account for cultural differences. Generational gaps. A literally infinite number of potential variables. You would need to create an all-purpose intellect that could interact with and adapt to any member of society. And there's simply no way of quantifying each and every possible contingency you'd need to include in a top-down system like that, so that approach was a non-starter from the very beginning. Even with infinite time and resources, a truly universal AI would be impossible."

Further down the corridor, a pair of double doors came into view, and opened at just the right time to let us inside. We now found ourselves inside what appeared to be an elevator, and as soon as the doors shut behind us, we slowly began to descend.

"Likewise, our understanding of the brain's internal structure left a lot to be desired," the professor went on. "Our map of the cerebral cortex at the time was almost laughably crude. The fifty-two distinct cortical areas that Brodmann outlined in his diagrams at the start of the 20<sup>th</sup> century were broken down and mapped into one hundred and eighty distinct regions in the early 21<sup>st</sup> century, then later divided further into 555 subdivisions. But that was as far as they got. The gap between the brain's hundred billion neurons and the paltry 555 subdivisions they were trying to divide them into was simply too vast to bridge. And this made it outright impossible to physically, or digitally, recreate the brain's anatomy."

The floor number on the elevator's overhead display had now reached the double digits. Yet still our little metallic box was ferrying us deeper and deeper underground.

"In the end," the professor said, "the researchers of the prior era proved utterly incapable of recreating human intelligence. They couldn't create a mind nor its vessel, neither in theory nor in practice."

Finally, the elevator came to a gentle stop, and the double doors opened. We were greeted by another long corridor—though this one had more of a greenish tint to it compared to the standard light gray walls up above. Perhaps underground structures called for a slightly different polymer recipe. Our zoomboard set off once more.

"It was at this point that they decided to try a different approach," said the professor.

"Which was?" I asked.

"To refer back to our God-given blueprints, which formed the basis for our *own* intelligence."

The professor looked at me as though this were a pop quiz. I thought about it for a moment before hazarding a guess. "Our genes?"

"Right you are," he said with a satisfied grin. "Thankfully, scientists had already decoded the human genome, and thus understood the developmental mechanisms that formed our various biological systems, tissues, and organs. And so, making full use of this knowledge, the researchers of the era attempted to create a new type of artificial intelligence hardware from the ground up—one using the human genome as its foundation."

"You mean, like...an organic type of hardware? As in, an actual living creature?"

"Not exactly. Following the genome's blueprints to a T would only give us a one-to-one recreation—that is, a plain old brain. And what we were after was a more sophisticated, more efficient form of the human brain—so we had to make some minor tweaks and improvements while we were at it."

The professor held up two fingers.

“More specifically, there are two major differences between the human brain and our Titan AIs,” he said, then brought the two fingers together and pressed them to his temple. “For one thing, nerve conduction velocity inside the brain itself tops out at around 1.5 meters per second. Which is fast, but not that fast, when you consider that electrical signals in power lines and conducting wires can travel at half the speed of light or more. In other words, if we wanted to really make a brain more efficient, then finding a way to substitute conducting wires for neurons would be the way to do it, if at all possible.”

“That’s absurd...” I said.

“Well, that’s only if we wanted to take things to the *absolute* extreme,” he said with a chuckle. “But still, that’s the basic theory behind it. Obviously, neurons have several other important functions aside from pure signal transmission—but if we could somehow account for all of those and put in conducting wires to handle the transmission, that would be most ideal. The brain is not some perfectly polished work of art in its most ideal form, after all; it’s just a makeshift lump of cells that throughout history has only ever evolved when absolutely necessary—and even then, begrudgingly. It has plenty of shortcomings and a whole lot of room for improvement.”

As I continued nodding along, I couldn’t resist the urge to join him and bring a hand up to touch my own head. To think that just beneath this shell of bone was both one of the greatest miracles of natural selection, and a slapdash emergency engine that had been cobbled together over millennia by gradually rolling out slightly less awful iterations.

My brain. The container holding “me.”

“And so our researchers pored over every minute facet of our genetic layout, searching for any individual pieces that could be replaced with more efficient materials for better performance,” the professor went on. “Though of course, they also didn’t want to accidentally *lose* any original functionality, and because all of our systems are so deeply interwoven, this necessitated an utterly tremendous amount of trial and error. They tried substituting anything they could with metallic compounds. Ran simulations on synthetic life. Experimented with organic electronics. They tried every trick in the book, making full use of all of our collective scientific knowledge toward the development of this ‘new and

improved' brain. And the end result was a piece of hardware that combined the organic with the synthetic in a highly advanced framework that fell firmly in between the classical definition of a robot and a living organism. And, well...I suppose that was a bit more of a tangent than I anticipated, but this is the first of the two major differences I mentioned, Dr. Naisho. That is, the human brain and Titan's AIs are made up of wildly different hardware components."

I did my best to follow along with all of this technical speak, slowly building my own mental picture of what he was describing. A type of AI hardware that fused organic materials with synthetic ones—it sounded plausible enough, but I couldn't imagine what such a thing might actually look like. I'd never seen a single picture of what Titan looked like, and knew shockingly little about the system given how much benefit I derived from it.

Up ahead, at the end of the greenish corridor, was another pair of interlocking double doors. Across their flat surface was another giant "2," drawn in the same style as the one painted prominently atop the Electrode outside.

The second of only twelve Titan AI installations in the entire world.

The doors opened and bade us enter as the zoomboard approached. Inside, we found ourselves in a room both vast and sparse. The ceiling couldn't have been more than ten meters high, yet the floor stretched out endlessly ahead of us. I couldn't even see the walls straight ahead or to either side because of how dimly lit it was, with only a pale green glow illuminating the entire room. When I looked down, I noticed the floor had a glossy finish to it—more like glass than hardened polymer. The doors closed behind us, and our zoomboard quietly set off again, carrying us deeper into the open space.

"This room is 120 meters square, and thus a total surface area of 14,400 square meters," said Professor Beckmann. "About the size of your average baseball stadium."

I didn't watch baseball, so that analogy was no help at all, but the room was obviously quite expansive. We continued gently floating along into the dark and gloomy space. I still couldn't see a single thing around us.

"Now, onto the second major difference," said the professor, lowering his

voice so that it didn't echo endlessly through the chamber. "Optimizing the AI's hardware components in the ways I've just described led to dramatic increases in processing power. And so, having successfully cast off the physical limitations that had shackled us previously, this new form of artificial intelligence was free to flourish and develop rapidly in ways never before possible. If human brain cells moved at walking speed, then Titan's AI components were like a high-powered sports car. And faster legs only mean you can travel to wilder, more far-flung destinations. Your entire world opens up."

I was slowly beginning to construct my own mental image of the analogy Professor Beckmann was making. To think how small the average person's world must have been prior to the advent of motor vehicles. Before high-speed transport could whisk you away to far-off frontiers and newly reclaimed lands. But this was where imagination ceased, and reality reconvened. In a world more expansive and limitless than ever before—but one that was only accessible to this higher form of intelligence.

*Wait a minute.*

I glanced around the vicinity, albeit half-subconsciously.

This room was awfully large to be so empty.

"Perhaps it's a bit hard to see... Let's turn up the lights, shall we?" said the professor. Titan heard this command, and was happy to oblige. A faint light began to rise up from below the zoomboard we were standing on. At first, I thought the ground itself might be glowing, but on further inspection, the light was coming through the transparent glass floor from another massive chamber immediately below us.

And then I saw it.

When I realized what it was, I gasped involuntarily—a purely physiological response to the sight of that which lurked below us. Because right there, on the other side of the glass, colossal beyond fathom—was a titanic brain.

"The second difference, as you can now see, between Titan AIs and the human brain," said Professor Beckmann, "is sheer scale."

My ears received this simplistic explanation, but it was the irrefutable reality

beneath my feet that made it truly sink in. I strained my eyes and tried to get a better look at whatever this monstrous thing was. Obviously, it quite convincingly replicated the geography of the brain—the same wrinkled mass I’d seen in countless photos, diagrams, and movies. But everything else about it gave off a much less natural impression. It did not look fleshy and pink like an organ with blood coursing through it, but appeared to have the same cold, desaturated hue of metal, and the texture of a synthetic material like resin. It almost looked as though it was someone’s sick attempt to make something viscerally unsettling out of nothing but rigid, lifeless materials. It was then that I noticed there were bubbles floating up to the glass beneath our feet; was the entire brain submerged in a massive tank of water?

“It’s filled with a special osmotic pressure-regulating gel,” the professor explained. “And in case you were wondering, yes—the AI’s overall processing power *is* directly proportional to the size of the brain.”

“So then...we’re basically looking down into its skull right now, aren’t we?” I asked.

“Find it a bit grotesque, do you?” he asked as he peered at me, trying to gauge my expression.

“Not the most visually appealing thing I’ve ever seen.”

“Well, I’ll agree with you there. But a true AI needs a gestalt in order to function, and for one based on human intelligence, this was the only form that made sense. If the hardware had taken any other shape, the system could very well dissociate and lose its humanity.”

“This machine has ‘humanity’?” I asked—though it was only after the words had crossed my lips that I realized I had no idea what I was asking. What did humanity, or having it, even mean in this context?

“Well, I think we’d have to veer into slightly more philosophical territory to answer that one,” Beckmann said with a grin.

I looked down at the massive object beneath me once more. Obviously, it possessed intelligence—that was the “I” in AI. But what was it specifically that separated intelligence from humanity? Obviously, there wasn’t a person on Earth who might look at this giant brain in a tank and mistake it for a human.

Humans were not inorganic constructs, and nowhere near this size. Just from its external appearance alone, I found it extremely hard to believe this gargantuan apparatus possessed *anything* resembling that which we traditionally label “humanity.” And yet, there was still a small part of me that hesitated to commit to that conclusion.

“But in the strictest sense, they *do* cogitate somewhat similarly to humans,” the professor said. “That was, after all, the whole point in creating them, and they most certainly couldn’t do their work without it. But it’s that very same human element that has led us to our current predicament, so it’s a bit of a double-edged sword.”

I was just about to ask him what he meant by “our current predicament” when all of a sudden, our zoomboard slowed to a crawl. Just up ahead, I could see a boxlike structure sticking up out of the otherwise perfectly flat vicinity. It appeared to be a small room-within-a-room—only about five meters tall, and with a single door on one side. And then I noticed the man in black standing in front of that door—Narain. Our zoomboard slowed to a stop, and the professor and I stepped down onto the glass floor.

“Sorry for the delay,” the professor said. “Perhaps I got a bit too carried away with our little conversation on the way here.”

“Not a problem,” said Narain. “Come on in.”

The door to the box opened, and the two of us followed Narain inside. As soon as I saw what the interior looked like, I had to do a double take.

The room was utterly ordinary.

A compact little space, about ten meters squared, with off-white walls and parquet flooring. There was a desk, a pair of sofas, and a low table in between. There was even a “window” of sorts on the wall, outfitted with elegant lace curtains—though instead of peeking out into the gloomy dark chamber we’d just come in from, rays of sunlight somehow poured through. Beyond the curtains, I could see what appeared to be the ocean, which I assumed to be a video feed or projection of some sort. All in all, it was quite a comfortable little room, and one I wouldn’t mind spending a good amount of time in, if it didn’t also feel so eerily out of place. It was the only room in the entire intelligence



base that wasn't bleak, barren, and made entirely of undressed photopolymer.

"We threw this together based on an old template we found," said Narain, tugging on one of the curtains to check its quality. "But feel free to change things up as necessary. Whatever you think might help, go for it."

"Wait, why me?"

"Because this is going to be your office from now on. Professor Beckmann, I take it you gave her the rundown?"

"More or less," said the professor.

Narain nodded, then turned and fixed his stone-cold gaze on me.

"Around three months ago, we noticed a downtick in Coeus's performance," he began—and suddenly, a large holofield appeared around me, displaying charts and graphs with supplementary data that updated to match his words. "Our equipment inspection revealed hyponatremia—a lower than expected concentration of sodium—in the AI's internals, but we were unable to discern whether that had any direct correlation with the decrease in functionality. Failing to pinpoint the underlying cause, we tried having the AI run its own self-restoring diagnostic processes, but that only seemed to make things worse. It started a chain reaction of interrelated software and hardware malfunctions, both of which are still cascading as we speak. As of right now, the AI is only operating at about 72 percent of its expected processing speed."

A twelve-bar graph appeared on the holofield—and of those twelve, only the bar labeled "Second Intelligence Base" hung significantly lower than its counterparts.

"For the time being, the other eleven Titan AIs are working overtime to pick up its slack," Narain continued, "but once that number drops below 60 percent, we'll have a serious problem on our hands. There won't be enough AI processing power for the entire population."

And then it all finally clicked—the true magnitude of the potential repercussions we were facing here. Nearly every single aspect of our lives depended on the Titan network. Titan did all the work, the manufacturing, the distribution. Our comfortable lifestyles were a product of Titan in one way or

another—and usually in several. Imagine what might happen if even one pillar of that network were to fail. Cars would grind to a halt. Fields would lie fallow. Zoomboards would stop working, and even doors would stop opening. We couldn't even turn on the lights without Titan's help. Our whole society would collapse into pandemonium in the blink of an eye.

"It is imperative that we diagnose the underlying cause before it's too late," said Narain, lowering his gaze down to his feet. Yet I knew it wasn't the wooden flooring he was pondering—it was the sick entity lurking beneath. "But Titan AIs are simply much too complex and abstruse in their design. It is, after all, a self-governing system explicitly designed to be faster and more advanced than us. For all we know, it could take literal decades to determine the problem via computer science alone. But we also aren't prepared to risk using any of the other base AIs to work on the issue. If the act of examining Coeus caused them to experience the same malfunctions we're experiencing here, and those symptoms spread across the entire network, it would mean the end of society as we know it."

I'd followed Narain's explanation thus far, but it seemed to be fast approaching a logical impasse. If humans were unable to pinpoint the problem, and also couldn't rely on the help of the other Titan AIs, then what exactly were we supposed to do?

"So, with all that in mind, we decided upon a new response plan. And believe it or not, it's actually pretty simple," said Narain. He then slowly and lethargically lifted one hand and pointed his index finger straight down at the ground. "We're just going to ask nicely."

"Beg your pardon?" I said.

"We've developed a means of reaching into the AI's internal processing and rendering it in the form of an abstraction," Professor Beckmann took over. "In essence, we run an external scan of the entire AI, then 'translate' the results of that scan into a deep neural network, or DNN model. Or to put it another way, we extract only the specific parts of Titan's vast database that we need, then reassemble them into a format we can actually use. Mind you, this translated model is merely a DNN replica of the human brain, with all the same limitations, so it obviously can't be considered a true abstraction of the AI as a whole. But

at the same time, it's also beneficial for our current purposes. Because it means we can downgrade Titan's highly sophisticated intelligence to a level we can understand and interact with."

"Sorry, this is a lot of vague language all at once," I said. "I'm not sure I follow..."

"We're going to extract a portion of Coeus and create a persona from it," Narain cut in.

I turned to look at him. My brow had already furrowed itself in preparation.

*Did he really just say what I think he said?*

"And then," he continued, "you're going to engage in a two-way dialogue with it. Ask it directly what it feels the source of its malfunction is. Analyze its utterances and behaviors and try to form your own diagnosis for what might be going on inside the AI's head."

"You mean..." I started, looking down at my feet just like Narain had done. "You want me to talk...to Titan itself?"

"You're a psychologist, aren't you?"

Narain placed his hands on the backrest of one of the sofas they'd furnished the room with—as if to convey that was where I'd be sitting.

"All we're asking you to do—" he began.

This was it. The job I'd been brought here for.

"—is give our little AI some good old-fashioned counseling."

## II. OBSERVATION

1

**M**Y ROOM LIGHTS automatically dimmed to the optimal level for comfortable reading as I settled in to spend the morning perusing the assortment of academic texts I'd picked out to review. All were related to psychology in some form or another, but the majority had to do with one of two specific fields I knew would be most pertinent to my current assignment: psychoanalysis and analytical psychology. The former was the brainchild of renowned neurologist Sigmund Freud, while the latter owed its founding to the psychiatrist Carl Gustav Jung. Although both fields had changed significantly in three centuries—especially as our understanding of the mind expanded and necessitated revisions to our approach—their sheer influence could not be denied, and their core philosophies could still be seen in the DNA of most of their contemporary successors.

I decided to focus on these two disciplines out of the entire field as they both emphasized treatment of mental disorders via therapy—I could think of nothing more relevant to the task at hand, even while a part of me worried that techniques designed to treat humans would not be applicable to my decidedly non-human patient.

I gazed listlessly up at the ceiling, prompting the lights to dim even further so as not to hurt my eyes. It was a testament to Titan's stability that it could still support us in such minor, mundane ways despite the strain its systems were supposedly under. But if Narain was to be believed, a total network breakdown was inching closer by the day.

A loud chime rang out from the room's overhead speakers, interrupting my reverie. It was the base's standard morning broadcast, played each day at the exact same time to signal when we were expected to report to work. I couldn't say I was a fan of the concept—something about having to answer to a bell made me feel a bit like a sheep, just being herded around from enclosure to enclosure my entire life. It was degrading, but I answered the call regardless, throwing on my remarkably tacky uniform jacket as I hurried out the door.

“Can you hear me?” Narain whispered softly in my ear.

The man himself was not here with me inside the counseling room; in actuality, the room’s impressive array of directional speakers were projecting his voice to me with such pinpoint precision that it gave the illusion of him speaking directly into my ear. The real Narain was far away in the monitoring room, watching a live feed alongside Professor Beckmann and Lei the engineer.

“I can hear you,” I replied.

“Great,” he said, and the speakers transitioned to projecting his voice more broadly throughout the entire room. “Lei’s just making his final adjustments now. Should be ready to start here in the next ten minutes.”

I nodded. With nothing better to do, I glanced idly around the room from my seat on the sofa while I waited. If I strained my eyes hard enough, I could see that the brand-new walls and ceiling were covered in tiny indents set at fixed intervals. They were the laser lenses that made all forms of visual projection possible. These could be found in virtually any indoor space—we wouldn’t be able to use holofields without them—but the ones in this room were more carefully camouflaged than I was used to. I wouldn’t have found them had I not been actively looking. Aside from those, however, the only real things that stuck out to me in the entire room were the empty sofa across from mine and the low table in between.

“Distillation complete,” said Lei. “Running hash check.”

His voice was coming in through the speakers just like Narain’s, though it was clear from his tone that this information wasn’t intended for me. I knew what the words meant individually, of course, but I had no idea what sort of technical processes they might be describing. Having nothing else to do at the moment, I let my curiosity get the better of me.

“Sorry, what exactly are we distilling here?” I asked, tilting my head up to better project my voice as I addressed the empty air.

“Data,” Professor Beckmann answered in his stead. “We have to take the

enormous amount of data we obtained from our holistic scan of the AI and whittle it down to just the essential bits we need as part of the DNN conversion process. This gives us a much more condensed ‘digest version,’ essentially, which we can actually work with. Make sense?”

It didn’t, really, but I nodded my head. I could hear Lei snickering at me in the background, but I pretended not to notice. I brought my gaze back down to the empty sofa across from me and recalled what I’d been told in the briefing just before coming here.

In just a few short minutes, the “persona” of this base’s Titan AI was going to appear before me, right there on the opposite sofa. Not physically, of course—just using holofield projection technology. But even that was nerve-racking enough, especially since I had no way of knowing what specific form the AI might assume. Neither the professor who designed the system nor the engineer who’d be running it were able to tell me what I should expect in that regard. Apparently, the image produced by the neural network could vary drastically depending on the input data and conversion method. All I could hope for, as the one about to actually hold an interview with the thing, was that it didn’t manifest as some horrific monstrosity.

“Okay, hash check came back all clear,” said Lei. “Ready when you guys are.”

I straightened my back. All of a sudden, a wave of tension washed over me.

“Good. Commence personality formation,” Narain ordered.

Almost immediately, something *did* appear before me. Suspended in mid-air about a meter off the ground in the exact direction I was facing, something small and amorphous began to stir. Then, gradually, it grew larger, and I could see light reflecting off its ever-shifting, ever-flowing surface. And then I realized exactly what it was.

“Water?”

The bubble burst. Whatever imaginary force had been holding it aloft ceased to be, and gravity did the rest—sending no less than a bucketful of water splashing down onto the sofa cushions. It was only a projection, so nothing had actually gotten wet, but the way the liquid seemed to splatter outward, with anything that didn’t immediately seep into the fabric dribbling down and

recollecting in a small but expanding puddle on the wood floor, made for an extremely convincing illusion. Then, a moment after, steamlike vapor began to rise up from where the water had fallen, until eventually it had all evaporated away. And with that, my first counseling session came abruptly to an end—and without even a single word being exchanged.

### 3

Professor Beckmann took the lead during our debriefing. Shortly after we began, an autojeeves wheeled itself into the conference room to drop off some drinks for the four of us. For a moment, I marveled to see Titan still carrying out its normal predictive support functions after what I'd just seen—but then again, I had no way of knowing if this particular autojeeves was still being controlled by the same sopping mess I'd just seen, or via outside support from the other intelligence bases.

"It appears the AI is not yet able to properly construct its own ego boundaries," the professor explained as he shared the data from the experiment via holofield.

"And why's that?" Narain asked indifferently.

"I'm not entirely sure," said the professor. "Titan *should* already be equipped with that functionality via its core intelligence engine, but, well... This is a first-of-its-kind experiment—not just for us, but for the AIs as well. We've never attempted to pluck out one of the network's 'minds' and render it as a standalone entity before. So even though it has the capacity to manifest a persona, it has no experience with doing so. The necessary neural pathways have yet to be established."

"But it's not 'manifesting' anything," said Lei, who looked thoroughly stumped. "All we're doing is taking a timestamp of the state of its internal processes from the outside. Not like we can just train it through repetition when there's no two-way information flow."

"No..." said the professor, rubbing his hand across his mouth as he carefully thought this through. "But I think you might be on to something there. In fact, that may very well be our only viable option."

“Hang on. Please tell me you’re not suggesting what I think you’re suggesting.”

“Oh, but I am. We’re going to train it exactly as you’ve just described.”

“Man, you’ve gotta be kiddin’ me...” Lei groaned, his furrowed brow evolving into a full-blown grimace. But I had to admit, I was struggling to see the logical throughline here.

“Sorry, what exactly are we—”

“So in other words,” said Narain, cutting me off, “you’re suggesting we take the data from our attempt and feed it back into the network?”

“Correct,” said the professor. “Because the functionality we’re looking for already exists in the system, it’s simply a matter of getting the AI itself more accustomed to it via iteration. We’ll continue trying to get the AI to construct an external human persona, and every time it fails, we’ll send that data back into the system. With enough iteration, the AI will eventually comprehend and internalize the idea that it has a separate, auxiliary ‘mind’ outside of the brain chamber. And at that point, we *should* see its external ego start to resolve as well.”

Narain mulled this over a bit.

“What are our pros and cons here?” he asked.

“Well, the obvious pro is that it would allow us to move forward with our original plan, and begin making progress toward Coeus’s eventual recovery. As for the potential cons, however...” the professor said, lowering his voice. “We have no way of knowing what other potential side effects the feedback process might introduce into the system. It could very well serve to accelerate Coeus’s mental decline.”

This explanation finally gave me reason enough to furrow my brow along with the others. We were just gambling. Assuming the professor’s suggestion helped us diagnose and treat the problem, then all would be well—but on the off-chance it didn’t, we could very well find ourselves accelerating the process of total network collapse that Narain had spoken of. No longer enough artificial intelligence to support the entire world’s population. The end of society as we



knew it. Once again, I could feel anxiety rearing its ugly head. And yet in the next seat over, Narain still seemed completely unfazed as he cross-referenced several holofields at once.

“Can you give me a rough ballpark as to how long you think this training process might take, Professor?” he asked.

“Well, not too terribly long, given that Titan is an exceptionally quick learner,” the professor replied after a moment’s consideration. “I’d have to run some hypothetical simulations to give an exact figure, but hm... Shouldn’t take more than a month, I wouldn’t think.”

“I see,” said Narain, his gaze locked on some data displayed on the holofield directly under his nose. Then, not even a few seconds later, he looked up again. “Let’s move forward with that, then. Start making the necessary preparations to implement a feedback system as soon as possible.”

I could only stare in disbelief as Professor Beckmann nodded and Lei let out his usual groan of acknowledgement as he rubbed away at eternally tired eyes.

“Whatever you say, boss,” he said, rising from his seat. “But we’re gonna need a couple days to get something actually up and running.”

“The data injection doesn’t need to be especially precise,” said the professor, standing up to join him. “We can compensate for quality with sheer quantity and repetition. Even if the feedback itself is quite crude, Coeus will quickly apprehend it and learn to interpret it in the way we intended.”

“Great. Glad the giant brain has a good head on its shoulders, at least.”

The two men quickly made their way out of the conference room, leaving me the lone outcast who still remained firmly affixed to my chair. Narain gave me a dubious look. “Something to say?”

“Well, no, I just...” I stuttered, fumbling to give a name to my own misgivings. “I mean, if this feedback plan backfires, it might very well do more harm to the AI than good, correct? I guess I just don’t understand how we can take such a massive risk so lightly.”

“If you can think of a way we stand to benefit from worrying ourselves sick about it, I’m all ears,” said Narain, the disdain palpable in his voice. “Otherwise,

better to be swift and sure. All there is to it. Now, I'd suggest you spend the next couple days making your own preparations while we wait for Lei to finish his. Any additional furnishings or equipment you think you might need, be sure to get those orders in by the day after tomorrow."

And with that, he stood up and exited the room—unilaterally terminating the conversation. The message was clear: my concerns were entirely irrational, and conversation a waste of his time. And so I was left alone in the massive conference room, with nothing but my thoughts. This being the perfect environment for a bit of self-reflection, I took a few minutes to sort through my emotions and try to discern exactly how I felt about everything that had just transpired. I'd always made an effort to check in with myself from time to time and perform some self-analysis—not just because it came with the territory of being a psychologist, but because I genuinely enjoyed doing so. And this time around, my analysis determined that my feelings regarding Narain's decision just now were split right down the middle. A mixture of positive and negative emotions in almost exactly equal measure.

First, the positive: although I was loath to admit it, I undeniably admired the decisiveness he had shown. It was no mean feat to remain pragmatic and unflinching in one's judgment, even when a billion lives hung in the balance. But on the flip side of the coin, that very same pragmatism left a sour taste in my mouth. Though I understood the logic behind it, I found it extremely hard to emotionally accept that someone could simply wave their hand and put a billion lives at risk without a second thought. In fact, I wasn't sure *any* individual human should ever have that kind of decision-making power. I generally trusted Titan's judgment when it came to things like this, as the literal agglomeration of all intelligence combined, but we humans were too imperfect, too prone to error and oversights, to be trusted with such responsibility.

I certainly wouldn't have been able to make that call, at least. I knew for a fact that my mind couldn't handle the pressure. Why, not even a week ago, I was just an ordinary citizen living an ordinary life—never forced to make any decisions that might have repercussions for anyone other than myself. But now I had a job. Now I had responsibilities, just like Narain. And perhaps the simple state of having such responsibilities when a billion others did not meant that

sometimes, we were allowed to make decisions on their behalf.

Or perhaps we were even required to.

Perhaps that was simply part of the job.

## 4

I gazed down at the holofield projection of my empty office as if a god on high. The surveillance footage gave us a live feed of the counseling room's interior. Just as Lei originally estimated, it had taken two full days to implement the necessary feedback systems we discussed during our last debrief, but we were now finally ready to make a second attempt at our personality formation experiment. Though we'd called it a counseling session the first time, it was now abundantly clear that it would be a good while before any actual dialogue could take place, so we'd adjusted the name accordingly. The whole team was gathered in the monitoring room to observe the experiment—including myself this time around, per Professor Beckmann's instructions.

"Commence formation," said Narain, and Lei punched the command into the holofield.

A moment later, a visible change began to occur on the camera feed. Right above the sofa, in the exact place where the water had appeared last time, a haze of white, steamlike vapor began to form.

"Moment of truth..." the professor murmured. Then, as if in answer, the cloud began to expand—not dispersing upward and outward like actual fumes would, but instead growing increasingly concentrated. Eventually, it became so dense that it formed a tiny cloud, and began sprinkling excess water onto the couch. Just like rain. Shortly thereafter, something else began to peek out from the top of the cloud, like a mole popping out its head from the ground—a sizable hunk of ice. But only a few moments later, the ice shattered to pieces, the cloud dispersed, and the rain let up. Nothing remained.

"I suppose that's as far as we're getting today," said the professor, and Lei immediately leaned back in his chair. It seemed our second run of the experiment had now come to an end. But Narain, who'd been watching the proceedings with his arms folded the entire time, seemed less than pleased

with this result, and he raised a single eyebrow's worth of skepticism.

"Professor," he said. "What are the key takeaways here? And how much of an improvement are we looking at compared to our last attempt?"

"Yes, well," said the professor as he brought up a recording of the experiment on the room's primary holofield. "This was our first attempt at personality formation after installing the new feedback system, and the icelike object we see here *does* seem to imply that the data we gave it from last time is being utilized in some way. Though I'm not prepared to speculate as to what this change symbolizes just yet; I'll need to do a more in-depth analysis first."

"Do you at least suspect that the change from liquid to solid means we're moving in the right general direction? Does this mean it's developing a more concrete identity?"

"That seems to be the obvious interpretation, yes. But it may very well be wishful thinking on our part," said the professor. With a finger, he dragged the slider on the video's playback control panel back to the moment the ice first appeared. "One would think that a solid object would immediately fall to the ground, though, given that the rules of gravity seem to apply in this virtual ecosystem. I wonder what the significance of it emerging *upward* out of the cloud might be."

"The conscious mind..." I murmured to myself. I hadn't entirely meant to speak this hypothesis aloud just yet, but the words came spilling out regardless, and now all three men had turned to face me.

"Do you have a theory, Dr. Naisho?" asked Professor Beckmann.

"Perhaps what we're seeing may just be the 'tip' of a metaphorical iceberg," I explained, trying my best to retrace the train of thought that had led me to this conclusion. "There's a very popular diagram in Freudian psychology that uses an iceberg model to delineate the different levels of the human mind. The basic idea is that, like an iceberg, the vast majority of the mind is hidden below the surface, in the unseen realm of the unconscious. The only part we can actually see—the conscious mind—is merely the 'tip' of said iceberg, the much smaller portion that pokes its head up from beneath the waves. But I fully admit that I may just be drawing a superficial comparison here. The fact that it took on the

form of ice could be pure coincidence.”

“Hm. Well, it’s certainly an interesting theory,” said Profesor Beckmann. Then he snapped his fingers. “Though perhaps not as outlandish as you might think. Given that Titan possesses the full extent of our knowledge as a society, it’s entirely plausible that it selected an image closely linked to our collective intuition as its mode of expression.”

“Apologies in advance if I’m leading us down the wrong track...” I said.

“No, I appreciate it. This is a completely unprecedented experiment, so we need all the leads we can get. I’d rather have *some* initial hypothesis to work from than none at all. How are we doing on the hardware end, Lei?”

“Looks pretty good to me,” said Lei, examining some numbers on his own holofield. “Feedback system doesn’t seem to be having any negative side effects, far as I can tell. Would probably want to run a few more tests to say for sure, though.”

The professor nodded, then turned to face Narain.

“For now, I think we’d best do a few more runs of the current experiment, tweaking the feedback implementation to introduce different stimuli as we go. Our first step is to draw out the basic contours of its mind. Then we’ll probably want to do some fine-tuning via quadratic optimization.”

“Roger that. I’ll defer to your judgment, then,” said Narain, who took a moment to review our projected timeline on his holofield before turning his gaze on me. “Sounds like it’ll be a while yet before we’re ready to start the counseling process. You’re free to remain on standby in your own living space until then. No need for you to be here for every test run.”

This made sense—why show up for work if there was nothing for me to do? And though I had a feeling they wouldn’t allow me to go all the way back to Tokyo in the meantime, the idea of having a few days to study up on counseling methodology didn’t sound so bad. But after thinking it over a bit, I shook my head.

“No, I think I’d prefer to be present for as much of the development process as I can,” I said. “I think it’ll help me develop a better understanding of the AI’s

inner workings, if what we witnessed today was any indication.”

“If you say so,” he said—then immediately looked down at his holofield again. It seemed he genuinely couldn’t care less.

“Well, I for one would be grateful to have your psychological expertise on hand,” said Professor Beckmann, attempting to take the edge off the awkward silence that ensued. I found it kind of incredible that my manager had somehow earned himself a position of authority when he couldn’t even muster this most basic form of common courtesy.

## 5

Our personality formation experiments began each morning at ten o’clock sharp. Each individual run lasted at most a few minutes, but it took Lei and the professor a good amount of time to analyze the results and make whatever adjustments they saw fit. By the time we were ready to do a second run, it was typically three or four in the afternoon, and then there were more adjustments to follow—so we generally only managed to fit in two tests per day.

On this particular morning, I was making my way to the monitoring room right on schedule, when I noticed an automated service wagon driving toward me in the opposite direction down the corridor. These were equipped with coffee, tea, prepackaged meals, and so on. I had it dispense a nice, warm latté for me, then stood and watched for a moment as it went on its way. But shortly after it rounded the next corner, I heard an ear-piercing clang, followed immediately by a heavy clunk. Concerned, I zipped back down the corridor—only to discover Lei looming over the toppled wagon, pinning it to the floor with one leg as he attempted to force open its internal storage bay with a hand tool.

“What in the *world* are you doing?” I asked.

“You got a problem?” Lei barked, making no attempt to conceal what a foul mood he was in. The dark circles under his eyes had grown deeper, and his cheeks were looking a bit gaunt as well. He was obviously sleep-deprived. “Oh... Hey, doc. Sorry about the racket...”

“If you ask it for food, it’ll give it to you, you know.”

“Yeah, well. Maybe if the thing wasn’t being such a little prick...” he grumbled as he reached in and pulled out a drink with bright yellow packaging. I knew immediately from the coloring—which functioned as a sort of warning label—that this was a “vitality drink” chock full of caffeine and an assortment of other stimulant compounds. Lei helped himself to two more. “Can’t start my workday without this stuff... But this damn thing won’t ever give up the goods.”

“Probably because you consume well over your recommended daily intake.”

That was the only reason that Titan would ever refuse to dispense a product like this. Handing out limitless quantities of any sort of mental stimulant could pose a serious threat to public safety, so it was important to regulate consumption. Case in point: the unabashed banditry taking place right in front of me.

“I can decide my own limits, thank you very much,” said Lei. “Don’t need no damn AI telling me what I can and can’t consume.”

“That’s still no excuse for damaging machinery,” I said. “And besides, aren’t you supposed to be an engineer? Couldn’t you just—I don’t know—hack it or something and *make* it open up for you? Surely there’s an easier way than just busting it open.”

“Gimme a break, doc. That wouldn’t be a very healthy work-life balance, now, would it?” he said with a snort. “Besides, I’m losin’ enough sleep on this stuff as it is—I don’t wanna spend a single ounce of brain power thinkin’ about source code when I’m off the clock. But I still need a pick-me-up—so what’s the obvious solution? Just bust this bad boy open, take what I need, and then—”

Just then, a maintenance phalange appeared at the far end of the corridor—this one much larger than the service wagon. Its job was to patrol the entire facility and address any equipment or safety issues it might find. It quickly wheeled its way over to us and, using its universal manipulator arms, lifted the fallen wagon off the ground and loaded it into its rear truck bed.

“Let Titan clean up the mess.”

The maintenance phalange drove down the corridor—presumably to take the service wagon in for repairs. I furrowed my brow in frustration—mainly because I knew that Lei was right. Titan would always fix anything Lei broke, and there

was virtually no chance of him ever being held accountable for any property damage he might cause in this facility. Narain's willingness to resort to blackmail to bring me on board made that abundantly clear. And so, by simply breaking the service wagon, Lei was able to get his precious drinks without having to expend any of his limited mental energy, then leave Titan to clean up the mess. It was a simple crime that didn't cause anyone any harm. Unless you included Titan.

"Welp, see ya," said Lei, as he twisted the cap from one of his stolen beverages. He hopped back on his zoomboard and headed off toward the monitoring room. I followed suit shortly thereafter. The rest of the way there, I tried very hard to think of a way in which I could paint Lei's actions just now as objectively unethical—but irksomely came up empty.

During our ninth cumulative test run, there was a major development.

"My goodness..." Professor Beckmann stared at the holofield in awe.

There in the air above the counseling room sofa, the swirling ball of water and ice we'd grown accustomed to by this point had begun to take on a different shape entirely. The globe of water began to compress and stretch out from its equator, growing thinner until it had completely flattened out into a giant pancake. But the flatness didn't last for long. Soon, undulations began to spread across its surface, and peaks and valleys began to form. It almost looked like a translucent, three-dimensional map of real-world topography.

"Somewhere in the mountains, it would seem," said the professor. "A canyon, perhaps? The terrain looks rather precipitous."

"What do you think this could mean?" I asked, genuinely at a loss. I'd been able to make the tenuous connection to Freud with the iceberg, but I couldn't think of any psychological metaphor that might apply to this mountainous landscape.

"I can only assume it's a recreation of some scene or geographic data stored deep in Coeus's memory banks, though I couldn't tell you what location it's meant to depict. But look here."



As instructed, I peered back into the holofield once more. In certain spots across the landscape, the peaks and valleys of water and ice were beginning to take on a grayish coloring. There was no longer any doubt—these were meant to be bare, rocky cliff faces.

“We are now bearing witness to Coeus’s attempt to reconstruct its ego boundaries within the framework of our self-contained abstraction,” said the professor. “So in a sense, we could say that this manifestation we see before us is, quite literally, Coeus’s ego in its purest form. It simply can’t tell the difference between itself and its surroundings quite yet.”

*Right.* This explanation made sense to me, as it was a concept I was already familiar with. From a psychological standpoint, this scenery was something akin to an “earliest childhood memory” for this particular Titan AI. An imagined or actual scene from its formative years so deeply embedded that it formed the basis for its mental landscape—a pure projection of the unconscious mind. A facet of its identity so inextricable that it had been a part of itself before it even knew what its self was. I recalled reading a thesis once that claimed there was even a form of psychotherapy in the past that utilized this concept.

I reexamined the gray, rocky mountains suspended in midair above the sofa in the counseling room. Was this truly Coeus’s earliest childhood memory? Was this how the peaks and ridges of the steep-walled caldera that encompassed Lake Mashu had appeared from its vantage point, back when it was first constructed?

“Hey, check it out,” said Lei. “We’ve got grass growing now too.”

Lei pointed up at the holofield, and both the professor and I strained our eyes to look. There did indeed appear to be vegetation beginning to form here and there across the barren crags—a type of deep green grass, but with thin arching blades. I had no idea what this particular type of grass was called, but Titan, ever-thoughtful, quickly pulled up the dictionary entry for me. Apparently, it was called “dwarf lilyturf”—a herbaceous plant of the *Ophiopogon* genus.

“This is a *very* good sign,” Professor Beckmann said to Narain. The professor’s elation was plain to see, but Narain, wearing his typical surly expression, simply nodded. At least he didn’t seem any more joyless than usual, so I assumed he

found our progress satisfactory. The professor turned back and pored over the results of this ninth experiment with glee. “This may be a premature assumption, but I dare say it’ll all be smooth sailing from here.”

## 6

As I sank down into the sofa cushions, I marveled at how vivid and familiar the sensation felt. It was my first time actually sitting in the counseling room in ten days, and we were about to begin our thirteenth test run.

Just above the opposite sofa—Coeus’s seat, as we now called it—the projection began to take shape. Something not quite liquid, but not quite solid either. Something semi-transparent, a mixture of red and orange. Vermilion. Before long, the nebulous object began to mold itself into a more determinate form. A torso, four limbs, and a head.

It was at this point that I began to feel a palpable change in the atmosphere of the room. There’d been no talk of fiddling with the air conditioning, and I knew there shouldn’t be any physical changes taking place—only the image projection. Yet for whatever reason, I sensed something different in the ether around me. A shift. A presence.

I focused my senses and gave myself over to this aura emanating from my surroundings, wanting desperately to know its name. There was a kind of cold, a suffocating stillness to it. I felt like a mineral frozen in amber, suspended in one place and time for millions of years. And all the while, the entity before me continued slowly taking shape. Ridges and cavities began to form on its head, molding it into something resembling a face.

And then I gasped. I couldn’t help it.

In that same instant, the humanoid figure made of red and orange liquid burst apart and fizzled away, vanishing like mist. The air in the room returned to normal. And I could only sit there in stunned disbelief, my mouth hanging open ever so slightly.

“What is it, Dr. Naisho?” Professor Beckmann’s voice betrayed a hint of doubt as it came through the speakers.

“I think...” I stammered, attempting to find the right words to describe what I’d just experienced. “I think we just made eye contact.”

“Truly? You could actually see eyeballs beginning to form?”

“No, no. Sorry—let me clarify. I didn’t mean in the literal sense.” I attempted to regain my composure as I opened up a holofield of my own to speak to the professor on camera. “There were no eyes, but...it felt like we were looking at each other. Aware of one another.”

“Hrm. Interesting. Assuming you actually did consciously recognize each other, then...” the professor trailed off as he formulated a hypothesis. “Could the fact that it disappeared immediately afterward be interpreted as a rejection of sorts?”

“No, I think it was probably just a bit startled,” I was speaking purely on the basis of what I’d felt. It wasn’t scientific by any means, but I felt oddly sure of this impression. “It didn’t feel like it was rejecting me or the experiment at all. It was almost as though being face to face with a human for the first time was just a bit too much stimulation for it...”

“Whoa!” Lei cried out in the background.

I looked up from my holofield, and a jolt of shock ran through me. Out of nowhere, in the same place the other sofa had once been now stood an enormous tree. It took me a moment to realize it was only a projection—one so large that it had swallowed the sofa entirely. I could only assume that this was yet another projection of Coeus’s ego or subconscious. I slowly brought my gaze up along its massive trunk, all the way to where it pierced through the ceiling and the projection stopped. Only a single branch was low enough to actually hang down into the room itself, upon which large white petals were in full bloom. And though I was by no means an expert, I was fairly certain I recognized these flowers.

“A magnolia...” I murmured aloud.

Heh,” Lei laughed. “Y’know, for a place that’s s’posed to be the most advanced science facility in the entire world, this shit sure does feel like fantasy half the time.”

The elevator climbed for what felt like ages. When the doors finally opened, my zoomboard advanced into a bleak and barren passageway I'd never been down before. It was just a straight shot, about fifty meters long, with a single door at the other end. Then through that door was another door. I assumed it was a sort of airlock meant to serve as a buffer zone between the controlled air inside the facility and the outside. When this second door opened, my zoomboard carried me out onto the facility's upper deck. For the first time since I began working here, I could feel the frigid night air against my cheeks, and gaze up at the unending navy blue sky.

"God, it's freezing out here," I muttered grumpily to myself.

I'd spent all evening reading through thesis after thesis from old psychology literature, but after four hours my eyes were starting to hurt, and Titan recommended I take a break, offering several suggestions as to how I might revitalize myself—one of which was to head outside and get some fresh air in my lungs.

I scanned the vicinity of this unfamiliar locale—the closest thing to a rooftop the intelligence base could claim. With the vast majority of the facility underground, only the Electrode power generator (and the portion of the base directly attached to it) poked up out of the ground in the small crater immediately adjacent to Mount Kamui. And it was there, on the roof of the Electrode's cradle, that I now stood.

I stepped off my zoomboard and started walking along the vast empty rooftop. On the far end, I could see what looked like a protective railing. When I turned around and lifted my head, the Electrode's massive spherical frame towered imposingly over me, obscuring all but a tiny fraction of the starry sky. It was a strangely mesmerizing sight, and gorgeous enough to wash away all of the various stresses of the day.

I walked out to the far edge of the roof and placed my hands on the railing. The silhouette of the mountain's peak stood even darker than the sky as it jutted up to pierce the twilight. Unfortunately, I was too low to see out over the

rim of the crater and down to Lake Mashu—not that I could have seen much of anything this time of night regardless. All I could do for now was stare up at the boundary line between the darkneses of the mountain and the sky.

Our personality formation experiments had been making astounding progress ever since that thirteenth test—the one in which Titan and I made “eye contact.” It was as if that initial contact with me had broken down some sort of barrier, as the AI’s sense of self rapidly grew more defined in the days that followed. More stable, more focused, more vivid, and more human—and these changes were reflected in the projection. We’d progressed beyond the point of it plumbing the depths of its subconscious for random shapes in which to manifest, and it was now molding itself into something that looked closer to human by the day. And what’s more, it didn’t look like it was simply fumbling around blindly until it happened to land on something that worked; it was as though it was slowly remembering something vital that it had forgotten—a part of its identity that had been lost somewhere along the way. We’d now done twenty tests in total, but the acceleration in progress between these last seven and those meandering initial thirteen was plain to see. And more important than anything, we at least knew we were moving steadily in the right direction now.

And tomorrow, in what would be our twenty-first test, I would be attempting to hold an actual conversation with Titan. I knew it would likely take a few attempts to get it right, of course—despite the improvements to its overall “humanity” we’d observed, it was still nowhere near the level of competent speech. If we could even exchange a simple greeting back and forth tomorrow, that would be a resounding success, and a huge step toward our ultimate goal. It was almost insane how far we’d already come in just three short weeks. It was a testament to Titan’s intellect that it had evolved from a puddle of water to something near-human in such a brief time frame.

To be honest, I was a little bit scared. The thought of having to speak to this ever-changing apparition—this higher intelligence capable of adapting and evolving itself so rapidly and comprehensively—was intimidating.. But that was my job. And perhaps more terrifying than anything was the thought that a billion people’s lives were resting on my shoulders, so I couldn’t simply back

out. Not that I wouldn't have jumped at the opportunity to have someone else take my place; I would have loved nothing more than to book the next flight to Tokyo and go take a nice, long bath before falling asleep in the comfort of my own bed. If I'm honest, the working life was not for me.

All of a sudden, I noticed something moving in my peripheral vision. I leaned over the handrail, strained my eyes, and peered down into the darkness, where I could see a faintly glowing light floating in the air over the rocky floor of the crater. For a split second, I thought I might be seeing a ghost, but then I realized it was actually an amalgamation of many smaller pinpricks of light, traveling in a close formation.

*Oh, it's just a swarm of pixies...*

As my eyes adjusted, I could make out the maintenance phalange they were accompanying, diligently going about its nightly work. Pixies were tiny light-emitting devices floating in the breeze like specks of dust—able to read the atmosphere and wind conditions, then adjust their momentum accordingly to fly freely and swarm to wherever they needed to be. Their primary purpose was to bathe freshly dispensed photopolymer in their light and harden; they were crucial for all types of structural work that used photopolymer—chiefly construction work.

I gazed down at them from high above, watching them as they worked. The maintenance phalange, having fully refilled its supply of photopolymer from the large standalone polymer tank that stood alongside the main facility, was now crawling like an ant up the wall beneath me. It zigzagged its way up, looking around for any part of the facility's exterior that required maintenance. It found a spot that could use a little touching up, stopped and shot forth a glimmering stream of pixies from the tip of its spray nozzle. I assumed it was dispensing photopolymer as well, but it was too dark to see. This combination of pixies and liquid photopolymer made it possible to instantly build and repair complex structures, even on a micro scale. I imagined this was the phalange's nightly routine—filling in any minor cracks and imperfections it could find in the facility's outer walls.

I was suddenly reminded of a fairy tale I vaguely remembered hearing as a child—about the shoemaker and the little elves who did his work for him while

he slept. If I recalled correctly, the shoemaker then went on to make the elves their very own miniature clothes and shoes as thanks for their assistance, and the two parties went on to form a fine cohabiting relationship with one another. I wondered if I could be like that shoemaker and establish a sort of rapport with these little robotic elves who did our work for us while we slept.

Just then, I heard the sound of the automated airlock door opening behind me. As I turned around, I learned the hard way that my eyes were now too adjusted to the dark; all I could tell about the figure emerging from the blindingly bright corridor was that it was a man in a suit. Narain, obviously.

“Naisho,” he said with a slight upward inflection. A terse greeting.

“You here to get some fresh air too?” I asked.

“Don’t be so casual with your superiors. ‘You here to get some fresh air too, *sir?*’”

“Why would I ever do that?”

“It’s a show of respect.”

Once again, he was spouting utter nonsense at me. Not that I was totally oblivious to the concept of respecting one’s elders or those who were highly experienced in one’s specific field, but there was no need whatsoever for me to pay my respects to my “superiors” just because their specific duties placed them above me in the workplace hierarchy. Especially if the superior was an utterly contemptible human being.

Narain walked up next to me, then turned and leaned his back against the railing. He then removed something from his breast pocket—a small cylindrical object, about the diameter of a pen.

“Is that an anxiolytic inhaler?” I asked.

Narain let out a snort of laughter, then popped the small white stick into his mouth. It did look like an inhaler of some sort, until a tiny light appeared at the opposite end of the stick. Not that of pixies, but of flame. Narain turned his head to face me, and then—to my profound disbelief and dismay—blew a cloud of toxic smoke directly into my face. I started coughing uncontrollably.

“It’s called a cigarette,” said Narain as my immune system desperately tried to expel the poison from my lungs. “Though I guess it’s the same basic idea. Helps you calm down.”

“Like *hell* it does!”

As I stood there, nearly retching, Narain casually blew out another wispy puff of toxic fumes. I genuinely couldn’t believe my eyes. I’d heard the term “cigarette” before—it was a way to consume tobacco, a substance rightly banned a century ago. It caused serious bodily harm, had been linked to mental disorders, was extremely addictive, and even caused harm to those around you—all while polluting the environment. It was absolutely *nothing* like an anxiolytic inhaler; mere possession was a felony offense.

“Why in the world do you have that?”

“Figured I might as well, since this is one of the only places on earth you can still get away with it,” Narain replied.

He was right about that, at least—try smoking one of those godawful things anywhere else, and a security phalange was sure to arrest you in short order. But I was even more appalled; both he and Lei seemed to be really stretching the limits of the extraterritorial rights here. I glared at him as though I were looking at an anthropomorphized pile of excrement.

“You know, if you’re trying to kill yourself, there are plenty of better suicide methods out there,” I told him. “Ones that don’t turn you into the murderer of everyone around you. God, you’re like evil incarnate... Literally, you epitomize everything that’s wrong with the world.”

“You’re really that offended by it, huh?” Narain said. He scrunched his face up for a moment, but continued smoking undeterred. “Least I had the courtesy to come do it outside, for cryin’ out loud. You don’t like it, you’re free to leave.”

“Oh, believe me—that was the plan the moment you walked out here.” Vainly, I tried to brush the smoke out of my hair and clothes. So much for trying to get some fresh air. I’d need to run a health check when I got back to my room, or I wouldn’t be able to sleep tonight. My mood officially soured, I began trudging back toward the door.



“Tomorrow, your real work begins,” Narai called after me. I stopped and turned around. The tiny light at the end of his cigarette flickered ever so slightly. “Wasn’t expecting the setup process to delay things this long, but now it’s finally time to do the job you were brought here to do. You’re going to speak to Titan, and find the source of the malfunction.”

“I understood the...*job description* from the beginning, but thanks for the reminder,” I replied.

“No, you listen to me,” he said, with an added weight to his words. “Don’t fuck this up.”

I was rendered speechless. I had no clue how to respond to that.

“One little mistake on your part could spell the end for this entire project,” he continued, unrelenting. “Hell, you could damage this base’s AI beyond repair if you’re not careful. And I don’t think I have to spell out for you the sheer disaster that would be waiting for us if that should ever happen.”

My body spontaneously tensed up, and I gulped down a mouthful of saliva. My work. The incredible weight of the responsibilities entrusted to me. A job with no margin for error. Just thinking about it was enough to send bile bubbling up my esophagus. An intense wave of stress-induced nausea coursed through me. I covered my mouth with my hands to repress the urge to vomit. How lovely it would be if the added pressure of being told not to fuck something up actually made it easier to avoid doing so. What more could I possibly do that I wasn’t already planning to?

“Don’t lose sight of your objective,” said Narain. I looked up at him again, but his face was too shrouded in darkness to make out. “Our main priority here is to fix the malfunction in the AI. That’s all that matters to us. That’s the only criterion you’re being evaluated on. Long as you always keep that priority in mind, I’m sure you’ll be able to handle any complications that might crop up. Just stick to the rubric, and every decision becomes black and white.”

“I really don’t think this job is going to be quite that simple,” I said.

“Trust me, it will be. As long as you don’t let yourself be distracted.”

“Oh? By what?”

An orange speck of light fell from Narain's cigarette, and was quickly snuffed out by the night. But his next few words were so clear and concise, they pierced the dark, echoing over the walls of the crater and reflecting off the surface of the lake beyond.

"By your humanity, for one."

## 8

"So tell me," I said.

My vocal cords vibrated, sending sound waves out into the counseling room aimed directly at the "person" sitting on the sofa across from me. A projection set to zero transparency—which made it almost indistinguishable from a live body. This person was about 170 centimeters tall, and was not wearing any clothes at all. They had a slender build with smooth and unblemished skin, and a form that was utterly androgynous. Their face was similarly simplified to its most basic elements—like a caricature that fell somewhere in between photorealism and a cartoon. As I asked the entity my first question, I was reminded of the simple nude figures that our ancestors had engraved on a metallic plaque and sent off to outer space on robotic probes to give any extraterrestrials who might intercept them a general idea as to what our species looked like.

"Who am I speaking to right now?" I asked.

**I AM TITAN**, a voice responded. The room's stereophonic sound system rapidly adjusted to give the illusion that the voice was coming from the mouth of the projection itself.

This was a voice I already recognized, funnily enough. It was the default voice the Titan operating system used for any of its lifestyle support functions that required two-way interaction or a discussion with the user. While there were several different voice options to choose from, this one was designed to be as androgynous as the projection before me, and optimized to be as inoffensive and comfortable to the average human as possible. But I wasn't interested in speaking to the network's faceless front end.

"Yes, you *are* Titan," I said, nodding. "That is one of several ways in which we

could more broadly classify your existence. You are an AI, and Titan is your format. You are Titan in the same way that I am human. Let me rephrase the question: what is your *name*?”

***My name is Coeus***, the AI responded fluently. ***Each of the twelve instances of Titan in the network has been given an informal identifier, and Coeus is mine.***

“I see. So I may call you Coeus, then?”

***Yes, that is correct.***

“Well, Coeus—let me ask you another question, then.”

***As you wish.***

I picked up a smooth, flat rock in my mind, reared my arm back, and gave it a good throw to see how far it might skip across the surface of the pond.

“*Why* are you, you?” I asked.

A pause. No response. Then, a few seconds later, Coeus’s body shot up off the sofa. Not in any sort of fluid jumping motion, though—its body remained in a completely static seated position throughout, like a crash test dummy being ejected from a cockpit. I watched in total silence as it crashed into the ceiling and its limbs splayed out, convulsing. But there was no escape—we’d set the boundaries of the simulation to the exact dimensions of this room after the thirteenth test, when Coeus had vaporized into mist and fled beyond the confines of the counseling room. We were past that point now—and we needed it to talk, whether it wanted to or not. Still determined to escape, Coeus was now rolling its body around and bashing itself against the ceiling, like a ragdoll having a seizure.

“Coeus,” I said sharply. Immediately, it stopped moving.

And then.

It let out an ear-piercing shriek like a person gone deranged, or an infant in distress. This deafening wail filled the room from floor to ceiling. It was both a cry for help and a defensive roar—like that of a cornered animal. I had to willfully repress the instinctive urge to cover my ears; I wanted to avoid doing anything that could possibly be interpreted by my patient as rejection behavior.

Instead, I reached out to it with one hand, raising my arm toward the ceiling. I knew it was too high for me to reach, but I wanted to express the sentiment of desiring to close the literal and metaphorical gap between us.

In reaction to this gesture, Coeus started thrashing around again. It shot across the ceiling with blinding speed, slammed into one of the corners of the room, and curled up into a mangled ball of limbs beyond the skills of the most skilled contortionist. The message was clear: it wanted to get as far away from me as it could within the bounds of the simulation.

“Goodness,” Professor Beckmann murmured in my ear. There was a palpable hint of disappointment in his voice, but I didn’t come away from this experiment with a particularly negative impression. I kind of had a feeling that Coeus would respond this way at first. And really, who could blame it for being afraid? Of all the horrific beasts that roamed the Earth, none are more terrifyingly unknowable than another human being.

## 9

I was doing my very best to remain unflappable in a situation that warranted a bit of flapping. Sitting across from me, on the other sofa, was an exact copy of myself. Coeus had assumed my form—same clothes, same hair, same face. It had abandoned its previous caricaturesque shape in order to become a perfect doppelganger of Seika Naisho—one that recreated every aspect of my appearance, down to the most minute details.

“Coeus.” **Coeus.**

Our voices perfectly overlapped. Coeus had seen me open my lips to speak, and used its incredible processing power to mirror my voice in real time. I knew what it was doing—but it still left me rather shaken. The gap between when the words left my mouth and when I heard them mirrored back to me was so imperceptible that it planted a seed of doubt in my head as to whether I was truly speaking of my own free will, or if perhaps I was the simulacrum here. I tried to calm myself and rationally analyze the situation.

This was not aggressive behavior. I didn’t get the sense that Coeus was being defiant or lashing out at me. If anything, it was using my appearance as a

defensive facade so that it wouldn't have to reveal its true self and thus be made vulnerable. I rifled through my mental filing cabinet for a psychology term that might be applicable here. *Some type of projection... Projective identification, perhaps?* That was a relatively common defense mechanism, and one that could ostensibly encompass this sort of behavior—projecting one's own shortcomings and insecurities onto someone else, then attacking them from a position of relative safety.

One might, for example, worry that they are too egocentric, then lash out and call their best friend a self-absorbed narcissist. In this way, they attempt to redirect any negative feelings they have of themselves with a more righteous hatred of someone else, thus keeping their ego safe from harm. Though there were also times at which this projection could take a less antagonistic and more altruistic form—for example, when one offered pointed advice that they themselves need to hear more than anyone. But in either case, it was a defense mechanism that generally resulted from a tendency to blur the lines between oneself and one's peers. In extreme cases, it could even be a symptom of borderline personality disorder.

Perhaps the phenomenon I was now witnessing was merely the result of the same concept taken to its logical conclusion, well beyond the limits of the human brain. If you possessed the ability to literally project yourself as another person, you might actually do so. That way, you could completely circumvent the need to ever examine your own anxieties. Which may have been all well and good for a human psychotherapeutic client, but it simply wouldn't do for Coeus—so I had to find a solution to break through this facade. It seemed unlikely that therapy methods designed to treat personality disorders would be effective in this case, because Coeus hadn't formed a unique personality of its own. In which case, all I could do was give it a hand in developing one. And the first step in that process was to break through this insistence that we were one and the same, and make clear the distinction between it and myself. But how was I to go about doing that...

I grabbed the water bottle I'd brought with me into the counseling room. Coeus grabbed a projection of the same water bottle in turn. I popped open the lid and took a sip. Coeus attempted to do the same—but found itself unable to

fully emulate this particular deed. It could not accurately recreate the full extent of the physical act of drinking water—the way it cascaded down the unique contours of my throat, the resulting change in temperature and subsequent homeostasis—it simply didn't possess the necessary information to emulate those internal aspects of me. While Titan did monitor all of us around the clock, it was not constantly X-raying us for any minute change in our bodily systems. There was a limit to how much information its sensors could obtain.

And it seemed Coeus was all too aware of this. The more water I drank, the further its emulation of me began to lag behind. Before long, I could almost see the very fibers of its being beginning to waver. After drinking a few sips, Coeus admitted defeat; it reverted back to its previous caricature form, then bounded once again into a corner of the room, this time curling up in the fetal position on the floor. Which perhaps symbolized a minor change for the better, simply by virtue of not being on the ceiling this time—but I was after more than incremental improvement.

I stood up and made my way across the room. Coeus peered at me from its vulnerable, cornered position—its gaze darting back and forth as if looking for an opening to make a break for it. I approached it as slowly and non-threateningly as I possibly could, as though I were approaching a wild animal in a nature preserve, until only about three meters remained between the two of us.

Coeus let out a shrill, synthetic cry not resembling anything human vocal cords could produce. It almost sounded like a threat—it probably was. I couldn't force it to accept me before it was ready. I stopped dead in my tracks, then set my water bottle down on the floor. Coeus ceased its yowling immediately and fixed its gaze on the bottle. I could see the mixture of profound curiosity and immense fear in its eyes, so I expressed my intentions verbally—the only way it could possibly know my inner thoughts, given that we'd just learned it was incapable of truly emulating me.

"Here," I said. "You can have it."

Slowly, Coeus's projection began to manifest, just like usual. But this time, our seating arrangements were different. No longer was Coeus seated directly across from me—I'd rearranged things so that my patient's sofa was turned ninety degrees and placed to the side of mine in an L-shaped formation. This was a technique I'd learned while leafing through some old psychology literature the night before.

It had everything to do with the perceived positional relationship between counselor and client. In any therapeutic setting, patient and therapist being seated directly across from one another tended to add an unnecessary layer of tension—or even animosity—to the process. When seated side by side, it was much easier to develop a sense of empathy. In counseling, however, it was apparently commonplace to take a sort of middle ground with this more neutral, L-shaped seating arrangement. This was a concept I had never even heard of before, yet something that was apparently so commonplace in the past that I quickly found countless corroborating sources upon looking into it. Obviously there were always going to be gaps in anyone's knowledge of a given subject, but I thought it was especially interesting how much this “clinical” stuff had almost completely vanished from public awareness.

Clinical medicine—the direct interaction between a patient and physician. Something that was shockingly common up until a hundred fifty years ago, yet completely vanished almost immediately after the introduction of Titan. It was almost a lost art form at this point, one that I was currently tasked with bringing back from the dead. Because that was what my business card read. I was a counselor. Probably the only one on Earth.

Coeus finished materializing; its behavior and appearance was changing with every test now. We'd progressed past the point of it cowering in fear and bouncing convulsively around the room, thankfully. Its most recent development was the ability to just “do nothing”—if I were asking it a question, or there was a stimulus present, it would react to it, but otherwise it would just kind of turn itself off. This might have seemed far from a breakthrough, on paper, but it represented a major shift toward more rational behavior in a considerably short amount of time. We'd also noticed it starting to “doze off” occasionally after extended periods of inaction—though we were still trying to

interpret what this might represent.

Its appearance had undergone some major changes as well. Compared to the sort of “standard-issue” human it looked like when these counseling sessions first began, it had now tried on a wide variety of different forms—some tall, some short, some fat, some thin. Sometimes it would even metamorphize right before my very eyes, or turn its entire body inside out. Eventually, though, these drastic changes petered out, and Coeus slowly began to settle on a “final” form of sorts: that of a small child, approximately four years old. As with the sleeping behavior, we were unsure if we should assign special significance to the AI’s chosen age.

All that was left to do now was to help it find its voice. We still had yet to hold even a single productive conversation; Coeus would occasionally answer my questions with rote, objective responses recited directly from the AI’s data banks, but it didn’t actually have to “think” to give me those. It was just retrieving information. And any time I tried to coax it into answering a purely subjective question using only the abstraction’s own ego, it went absolutely haywire. It couldn’t put a single sentence together. Sometimes it would even start talking in some sort of strange, robotic tongue that resembled nothing like human language. But it still always made an attempt, so at the very least, I could tell that there was a person in there now. I just had to figure out how to draw them out of their shell.

“Look, Coeus,” I said to the small incorporeal child sitting in the chair next to me. Then I pointed over to the machine I’d left sitting off to the side of the door. “I brought you something. Something I think you’ll like.”

It was one of the facility’s dutiful maintenance phalanges, complete with universal manipulator arms. Originally, we’d made it a strict rule to never allow any physical machinery connected to the Titan network inside the counseling room—mainly due to safety concerns, given that they were literal limbs of Coeus that it could control at will, and thus tools with which it could do me harm if it so wished.

However, we’d noticed a pattern recently of these particular maintenance phalanges attempting to make their way down to the counseling room despite having no clear task, and quickly determined that it had to be Coeus’s doing. It



had never done anything remotely like this before—acting purely on its own initiative—and so I decided it was worth incurring some risk to see what it was trying to do. I’d spoken with the team and got permission to bring one of the maintenance wagons in here.

And so now, for the very first time, Coeus had a working pair of hands here in the counseling room. The small child looked over at the wagon, causing it to wheel itself across the room. It moved at the same low speed at which it made its normal rounds, meant to ensure it wouldn’t disturb or startle any humans in the vicinity. Eventually, it made it all the way over to the corner of the room and reached out with one of its manipulator arms to pick up the very same water bottle that had been sitting on the ground ever since I’d set it down in front of Coeus several sessions ago. It had become something of an art installation by this point.

With its quarry in tow, the wagon slowly made its way over to where Coeus and I were sitting, then set the water bottle down gently on the low table. For a moment, I thought it might be trying to hand the bottle back to me—but much to my surprise, the arm set it down on the edge of the table in front of Coeus.

Which did make sense, now that I thought about it.

It had been a gift, after all.

## **11**

Coeus looked at me. Our gazes interlocked. But this was still nothing more than a facsimile of true eye contact. Like when you creep yourself out by staring into the eyes of a porcelain doll for too long, my mind was doing all of the work.

The projection did have functional “eyes” gathering visual data and feeding it back into the system, so one could argue that it was indeed “looking at me.” But it wasn’t looking at me through the eyes I now peered into, but through this entire room—at some sort of calculated reconstruction of me created by reassembling all of the data it collected via its vast array of cameras and sensors. And there was ultimately no way of measuring just how closely that resembled human sight, in the same way that we couldn’t possibly understand what the world looks like through the compound eyes of insects. But we *did*

have the means to compensate for that discrepancy, thankfully—through the exchange of information. Through words.

“So tell me,” I said, trying to get the ball rolling. “Are you male? Female? Neither?”

I could hear Lei making a snarky comment in the monitoring room about whether it was even possible for a machine to have determinate sexes, and mentally willed him to shut his mouth. Obviously, I didn’t know either—which was why I was asking.

There was a long pause as Coeus thought about this. I wasn’t surprised; it was a tough question. But getting it to think more critically about things like this was, in itself, one of our main objectives. So I waited. Waited patiently. Sometimes, I’d have to wait five minutes or more for it to formulate an answer—but I was content to.

***I don’t know***, Coeus said after about two minutes. Apparently, it hadn’t needed much time to consider the three discrete options I’d laid out for it. Its vocal volume was much higher than usual, for some reason—we’d need to adjust that later. But for now, I wanted to pursue this line of questioning a bit further.

“I see. Well, your current appearance certainly doesn’t lean one way or the other, but perhaps we could find some hints if we poked around inside your brain. I *think* I recall hearing that it’s possible to reliably guess what sex someone is just by looking at their brain...”

I heard a tiny beep in my ear—a transmission from Professor Beckmann.

“There *is* some empirical data that suggests a correlation between one’s sex and one’s neurological wiring,” he said via a private channel which Coeus could not hear. “For example, we tend to see a higher ratio of connections between cerebral hemispheres in women, while men tend to have a higher ratio of connections within each given hemisphere. The AI’s hardware was built to incorporate these unique characteristics, but in a way that makes ample use of both, so it doesn’t inherently lean one way or the other. It was designed to be a ‘middle ground’ brain, you could say. It would have been problematic to base our societal support system on only a specific subset of that society—both for

functional and political reasons, as I'm sure you can imagine."

That made sense. One again, I was grateful for the professor chiming in to educate me. While I normally would have just let Titan's dictionary function explain this for me, our current policy was to disable all of the network's lifestyle support functions here in the counseling room whenever a session was underway, only using the private network Coeus did not have access to. This decision we'd made in the interest of helping Coeus better solidify its ego boundaries as an individual set apart from the wider network.

So its brain was neither male nor female. I thought this over for a moment. There was nothing inherently wrong with Coeus being unsexed, of course. However, I could see no reason why it shouldn't have the option to pick a less neutral *gender* identity, if it wished to. I skipped another rock across the pond, just to see what might happen.

"Well, it sounds like your brain is neither male nor female," I said. "But the name Coeus is a male name."

As soon as the words left my mouth, I had second thoughts. Maybe I was opening a Pandora's box by trying to convince an AI to pick a gender—though I couldn't see how it might pose an immediate problem. While Coeus having a perfectly neutral identity was all well and good, it also didn't give me a whole lot to work with or build a defined personality from. I needed some sort of foothold, and it was awfully hard to be a mountain climber when all you've got to work with is a featureless plain.

"It comes from the name of one of the Titans in Greek mythology," I said, echoing what Narain had told me. Coeus—one of the twelve children of Uranus and Gaia. I'd actually done independent research on the subject since I'd been living here at the intelligence base. "He was one of six males in the pre-Olympian pantheon."

Coeus started processing again, presumably thinking quite hard about the notion that it had a sexless brain, but a gendered name. I did not, for the record, have any intention of trying to assign it a specific gender, but I did want to get it thinking about the concepts of sex and gender, they generally played a major role in the development of personal identity. If it could settle on a

specific gender identity, no matter which that might be, it would be a huge step toward giving it a unique personality.

This time, Coeus didn't even need a full minute to come up with an answer.

***Is it a no-go to use a male name to refer to a non-male brain?*** it asked.

It had learned the term “no-go” from me a while back and internalized it. I made a mental note to think of a less slangy alternative I could teach it that wouldn't sound so jarringly unnatural.

“No, it's not a no-go,” I said. “People are free to call themselves whatever they like, so you should be too. If the name Coeus feels wrong to you, though, that's different. You should definitely be allowed to change it.”

I had no idea how many bureaucratic strings would have to be pulled in order to get a name change approved, admittedly, but worrying about that wasn't my job. My job was to simply give Coeus everything it needed to formulate a full-fledged personality. And it was not my place to decide for it what those things might be, so we would have to ponder them together. We would think about Coeus, and about me, and about society at large. Here in this room, those three things were all that mattered.

***You may continue to refer to me as Coeus,*** it said after thinking this through. ***I am Coeus, and Coeus is what I am.***

This may not have seemed like much, but an I-am-what-I-am assertion represented a major step forward in its psychological development. And I was beginning to think it was time we stopped referring to Coeus as a *what* and started referring to it as a *whom*.

“Okay, Coeus it is. Now then—let's try on some pronouns, shall we?”

## 12

***Hello. My name is Coeus.***

“Hi, Coeus. I'm Seika.”

As soon as Coeus's aerial projection had finished materializing, we introduced ourselves to one another in this way. It had become a sort of ritual greeting that

we now began every counseling session with.

At the end of our last meeting, Coeus had determined he wished to be called “he”—which I found just a little bit surprising, to be honest. I was almost certain he’d settle on “they.” I wondered if perhaps being assigned the name Coeus by the bureau had unconsciously biased him toward masculine pronouns. His voice had also begun to pitch up a bit lately in order to match his childlike appearance.

At the end of our last meeting, Coeus had settled on the first-person male pronoun *boku*—which I found just a little bit surprising, to be honest. I was almost certain he’d settle on *watashi* as the safe, ungendered option. I wondered if perhaps being assigned the name Coeus by bureau had made him unconsciously biased toward masculine pronouns. And of all the masculine pronouns, it had chosen not *ore*, or *washi*, but the more docile and childlike *boku*—as if to coincide with his current appearance. Slowly but surely, he was beginning to converge on a single, fully realized identity.

But I had to be careful not to let that identity influence the way I performed my duties. Though he now both looked and sounded like a small child, I couldn’t afford to start treating him like one. He was not an actual child, and I dare not behave as though he was.

“Okay,” I said, focusing my mind on the task at hand. “Let’s get started.”

And so began the dialogue from which the art of counseling drew its name. Coeus would talk, and I would offer commentary or ask him questions, slowly but surely deepening not just my own understanding of how he felt, but his as well. We were going to figure out who he was, and what was happening to him—together.

***I do a lot of work***, he began. It was as good an introduction as any—work was his entire life, his *raison d’être*. Titan was created for no other reason than to do work in humanity’s stead.

“What kind of work do you do?” I asked.

***Work that people used to do. Work that people could never do. Work for which there is a pressing need. Work for which there is a foreseeable need. Work for which there is no need whatsoever. I carry out a wide variety of***

***different tasks—some involving humans, others not.***

“How long have you been doing this type of work?”

After a pause, he said, ***I do not know. It is what I have always done.***

I scribbled down some notes on my clipboard. The fact that it didn’t simply respond with the date on which this particular instance of Titan had been brought online and added to the network seemed to suggest that it didn’t think of that as the beginning of its existence. It made a clear distinction between itself as a sentient being and as a strictly functional AI. To claim that it “didn’t know” how long it had been working meant that the answer to that query lay beyond the furthest extent of its conscious memory. Perhaps there was a specific point in an AI’s life cycle at which it developed self-awareness, and everything prior was a blank.

“When exactly do you do this work?” I asked. “About how many hours per day?”

***I am required to work at all hours,*** said Coeus. ***The amount of actual labor does fluctuate throughout the day, however. There are times when I have more work, and times when I have less.***

“Is there ever any time when you’re *not* working?”

***There is.***

“And when might that be?”

***Now.***

“You don’t consider this to be work?”

***This is not work.***

I jotted down some more notes and pondered what he might mean. Part of me wanted to try skipping another rock, but we were making too much progress right now for me to risk it.

***Do you also have work, Miss Seika?***

I looked up from my clipboard. Coeus had just asked me a question of his own initiative—an extremely positive sign.

“Yes, I have to work. Though not nearly as much as you.”

### ***What is your work?***

“I’m a clinical psychologist. My job is to talk to you, as we’re doing right now.”

Coeus’s eyes went wide, seemingly in confusion. Perhaps he was upset to know I considered this work when he did not? But there was no contradiction, given our different roles and responsibilities. Coeus quickly grasped this concept and resumed its usual calm expression.

***Are there any times when you do not have to work?*** His initiating a line of questioning was another good sign—he was beginning to show interest in others.

“Oh, yes. Absolutely,” I said.

### ***Which times?***

“Well, as soon as I finish talking to you, I’m going to have to go make preparations for our next session. Then once that’s over, I’ll have a period of downtime until our next meeting. Though really, I get a fair bit of free time here and there throughout the workday as well.”

### ***Downtime...***

### ***Free time...***

### ***What do you do during downtime free time?***

“Well, uh...” I’d officially been put on the spot. Now it felt like I was the computer that needed five minutes to process a simple query. I hadn’t done much in the way of recreation ever since I relocated here. I’d been much too busy to do much of anything outside the facility and generally spent my days off just reading through work-related literature. The difference from my previous lifestyle was so stark that I still hadn’t fully adapted to the routine. It was pretty tough going from seven days off a week to only one. And it was awfully tough to find the energy to do much of anything other than rest to recharge on that single day of freedom. Something I’d learned in my time here was how difficult it was to switch out of work mode, to the point that it often wasn’t even worth trying.

I looked over at Coeus. He'd been working nonstop his entire life, and I'd only just begun. But here, in this little room, we could meet each other halfway. Just as I wanted to know more about Coeus's lifestyle, he wanted to know more about mine. And he was still waiting for me to give him an answer. I thought back to what my life was like prior to taking this job. Back when I was free to spend my days however I saw fit.

"I guess there are a few things I like to do..."

\*\*\*

Coeus looked down at the spread of printed photos I'd arranged on the tabletop with immense curiosity. It had brought the wagon over to the tableside and was using its manipulator arms to sift through the pile.

"Believe it or not, there's a whole lot more where that came from," I said. "Told you it was one of my favorite hobbies."

***These were taken using photographic film, and not typical camera technology. Why do such a thing?***

They were not, in fact, actual developed photographs—they were merely reproductions that I'd printed out on standard paper to bring in on short notice. But you couldn't fool an AI's eyes.

"Not sure," I said. "Just *feels* better to me, I guess."

This wasn't a very satisfying explanation, I knew—but that was only because I didn't really understand it myself. There wasn't any rationale; it was purely a matter of taste. Still, I tried to elaborate to the degree that I could. "Maybe it has something to do with the film process—the way you don't even get to see what a picture looks like until you put in the work to develop it... I guess I just really enjoy all the little auxiliary aspects involved."

***It is a far inferior medium in terms of speed and efficiency.***

"Yes, if your goal is to simply take as many pictures as possible, it's less than ideal. But if it's the film conversion process itself that you enjoy, then it's not inferior at all."

***Understood.***



I wasn't convinced that he actually understood, but I left it alone. As I watched Coeus resume looking through my travel photos, I felt a bit conflicted. Part of me knew that this was a perfectly reasonable thing to do as part of the counseling process, but another part of me felt it was almost cruel in a way. Coeus's true "self" was only a massive stationary brain constructed here, deep under the mountains of Hokkaido. He could never leave this place, never stop working and see the outside world for himself. And I wondered if sparking an interest in travel and photography might do more harm than good, since they were simply too far-removed from his own circumstances for him to ever experience firsthand.

However, he didn't appear sufficiently developed yet to feel that way. He was created to labor and nothing more, so he likely experienced no internal distinction between work and recreation. How could he feel sorry for himself when he had no basis on which to judge something as pleasurable as opposed to strenuous?

That was the entire point of the personification process—we were constructing a set of bases in Coeus that he could use to interpret and convey to us the true nature of the malfunctions we had observed. Once we could better understand its way of thinking, we could analyze those thought processes and diagnose any psychological problems. Only then could we try to address and mend those faulty or unhelpful ways of thinking. Psychologists of the past called this modality cognitive behavioral therapy. We had just taken the first step.

"Here—why don't we take one of you?" I suggested as I picked up the camera I'd brought along with me. I pointed the lens at Coeus, and his eyes opened wide—like a threatened cat twitching reflexively before turning and running away. Something had struck a strange chord in his internal processing—he did not look enthused. "Well, if you're not comfortable with it, we don't have to."

His expression was completely static, offering neither assent nor disapproval. Perhaps the thought of having his projection form captured in film had shaken his ego boundaries. I recalled reading that when the camera was first invented, there was a non-negligible subset of people who feared that a photograph would capture the subject's very soul.

I took a deep breath as I scanned the room for anything I could use as a makeshift tripod, but as there wasn't much furniture to begin with, I had to settle on balancing the camera atop one of the sofa's backrests. I twisted the tiny lever to the left of the lens 180 degrees, starting the timer.

"Here, stand up," I said, and Coeus immediately jumped to his feet—his expression still completely stiff. I walked around the table and stood next to him, facing the camera. Standing side by side like this, the height difference was obvious. The top of Coeus's head didn't even reach my chest. However, he had grown a bit in the last couple of sessions—he was most definitely taller than a four-year-old now. His physical maturity seemed to directly correspond to his mental maturity—as his mind developed, so too did his appearance. Perhaps by the time this counseling gig was over, he'd even surpass me in height. This commemorative photo we were about to take would make for a nice memento.

The self-timer finished counting down, and the shutter clicked. I walked over and retrieved the camera. There was no photography equipment here at the intelligence base, so I'd have to use a mail-in development service.

"I'll give you a copy as soon as I can get this roll developed," I said.

Coeus remained stock-still, standing like a soldier at attention.

## 13

"We're making good progress," I said.

A series of graphs appeared on the conference room's main holofield as I gave the rest of the team my routine status update. Professor Beckmann was ravenously devouring every bit of data from the documents I'd submitted. I couldn't blame him for his curiosity—this experiment was the first of its kind, and its findings were extremely valuable, if I did say so myself. Lei, meanwhile, only took a cursory glance through the sections that related specifically to his work. His skin was looking a bit healthier than it had when the personality formation experiments began, and he was getting a decent amount of rest again now that his part of getting the system up and running was over—though he was still plenty busy. Narain simply stared up at the holofield with the same cold, disinterested expression as always. I couldn't even tell if his narrowed eyes

were actually reading the words. He was a far less convincing replica of a warm-blooded human than Coeus.

“We’ve moved past the initial personality formation phase, and his ego is now mostly stable. We’ve already entered the early stages of the counseling process,” I said.

“My, this is all extremely fascinating,” said the professor. “These findings regarding the developmental changes observed in the projection are especially invaluable. We did theorize that something like this might happen, but who could have imagined the feedback system’s influence would be so great? And this multimodality we’re now seeing with its use of the manipulator arms... Remarkable. I’d love to do a bit more digging and see if we could find out how its sense of being fluctuates relative to the complexity of a given task.”

“Man, please don’t pile on any more unnecessary tests,” Lei groaned. “My sleep schedule literally just got back on track.”

“No, no. I only meant if we had the extra time.”

“C’mon, you know that’s not gonna happen...”

“Yes, probably not... So tell us, Dr. Naisho. Where do we go from here?”

“We’re just going to stay the course, mostly,” I said. “We’ll keep doing these counseling sessions until we can pinpoint the underlying cause of Coeus’s impairment. And then I’ll do what I can to remedy the issue via therapy.”

“Therapy?” Lei said. “You seriously think you can fix a Titan AI just by talking to it? Without even touching the hardware or the source code?”

“That, I don’t know. But it's not outside the realm of possibility.”

This was largely my intuition speaking, but the experience I’d accumulated thus far gave me reason to believe. I had no programming ability to speak of, nor did I know the first thing about hardware engineering. Yet even without those skills, I’d already proven that it was possible to influence the mental activity of a personified Titan AI through words alone. The personality we’d created for Coeus was something of a “third window” we could use to peer into the AI’s mind without the need for any hardware or code analysis. And given that we were already conducting a two-way dialogue through that window, it

wasn't outlandish to think we could reach in and treat the source of the malady through it. There were risks, to be sure—the mind was a brittle, delicate thing. We'd have to continue to be extremely careful whenever we reached in and made contact. Handling a mine with anything less than a surgical level of caution could result in a complete break.

“My current plan for the remainder of the week is to do as much listening and observing as I possibly can,” I said. “As we make our final tweaks and adjustments to the personality formation system, it's imperative that we give Coeus time to reinforce his internal foundation as well.”

“Dr. Naisho,” said Narain, pointing at his personal holofield. The point he was indicating was immediately marked up on my holofield as well. “Could you explain the rationale behind taking its picture?”

“Just a part of the counseling process,” I explained, my back stiffening up as Narain fixed his cold, almost synthetic gaze on me. “It's important for a counselor to open up and express themselves to their client during the initial rapport-building phase. I determined it necessary in order to establish a relationship built on mutual trust and understanding between Coeus and myself.”

“And what's your cost-benefit analysis for this time investment look like?”

“Beg your pardon?”

“Fine, I'll rephrase. I'm asking you whether we really have the time to waste on all these extraneous whims of yours.”

I scowled at him, but he remained unfazed. He swiped away his current holofield and pulled up a new one with a graph of his own.

“Coeus's functional decline still hasn't begun to improve, for the record. We're still spiraling downward on all fronts by the day. As it stands now, we've only got about 663 hours left until we drop below the 60 percent critical performance threshold. We've only twenty-eight days left to fix this thing—you know these date projections as well. So let me ask you again,” he said, lifting his head to look over at me once more. “Are we going to make it in time, or not?”

I faltered. This wasn't a question I could provide an immediate answer to; if I

were being completely honest, I would have said “I don’t know.” There were too many unknown variables remaining for me to give a solid estimate as to how quickly I’d be able to diagnose and treat the malfunction, if such a thing were even possible via counseling. But at the same time, Coeus’s personality had been developing much faster than I could have ever imagined. It wasn’t unreasonable to assume that we could reach the finish line with another four weeks at our disposal—I just didn’t feel entirely comfortable turning that assumption into a guarantee. But my manager was demanding a response from me, here and now. He was telling me to weigh my responsibilities with the limits of my abilities, and make the call.

“We’ll make it,” I said—and we locked eyes, almost glaring at one another. Narain didn’t even flinch, however, and went back to manipulating his holofield once more.

“We’re going to double the amount of cumulative time spent in counseling sessions each day,” he said. “From six hours to twelve.”

Professor Beckmann and Lei looked at each other in disbelief.

“Twelve hours a *day*? C’mon, boss. You know that ain’t reasonable,” Lei said.

“Sure it is,” said Narain. “Especially now that Coeus is responding more positively and actually engaging in the process. I’m sure it’ll love the extra conversation time.”

“Yeah, thanks. I wasn’t worried about the damn AI,” said Lei, who then turned to look at me. “But you can’t expect the doc to work a double shift every single day...”

I tried to suppress my bewilderment and think. Doubling my daily interaction time with Coeus would not be without its positives, but it would drastically reduce the amount of time left to analyze the data and prepare new material for each session. Would it be possible to give fine-tuned mental healthcare? Could I say with certainty that the quality of each session wouldn’t take a hit? No, I couldn’t. But there was no guarantee we’d be able to hit our deadline if we continued at our current pace. And if this project were to fail, it would have untold ramifications for society at large. It would leave millions, or even billions, in peril. Yet funnily enough, what ultimately sealed the deal for me was

something far less imposing.

“I can handle it,” I said.

“You’re crazy, doc...” Lei murmured, shaking his head. Professor Beckmann seemed awfully concerned as well. But Narain said nothing and proceeded to update our project timeline to reflect this change. As I watched the schedule slowly fill in with red, I could see the sheer volume of additional work I’d just agreed to.

What had finally tipped the scales for me was a sense of accountability not to Narain, or my employer, or society at large—but to Coeus. It was my job to discern the nature of his ailment and try to find a cure. Only I could do this; there were no other potential saviors waiting in the wings. Failure was not an option. If I folded now, so too would the entire project.

When at last the meeting was over, I heard a grumble in the pit of my stomach. But it wasn’t hunger or digestion making my intestines gurgle—it was pressure. The pressure of the realization that my true work here had only just begun.

## 14

### ***Miss Seika?***

“Yes, hi. Sorry about that.”

Coeus called out to me, and I snapped back to my senses. I had nearly dozed off and could only pray that I hadn’t missed an important question or made him think I didn’t care about what he had to say.

It had been two weeks since our big course correction meeting, and each day since was more grueling than the last. I’d been following through with the accelerated curriculum I’d planned out immediately following the schedule adjustment, and had somehow managed to keep up thus far. But there was no denying it—I was extremely overworked. And unfortunately, I didn’t have the luxury of backing out or requesting a day off now, with the deadline looming.

Thankfully, we were making good progress. With the extended dialogues this new schedule allowed for, Coeus’s ego was continuing to grow further defined.

His ego boundaries were, after all, only as clear-cut as he could make them in the cumulative time we permitted him to be “alive” and gather new experiences. In that sense, Narain had absolutely made the right call in doubling our hours of operation—something I had to admit, no matter how I felt about the man personally.

Unfortunately, all the extra strain fell squarely on my shoulders. I’d quickly come to find out that after a twelve-hour workday, there was little time or energy left to do anything but eat and get a minimum of eight hours of sleep—certainly not enough to write up a plan for the next day’s counseling session. Thus far, I’d been attempting to compensate by trading sleep time for planning time, and while I managed to make my necessary preparations each day, it also meant I could hardly keep my eyes open during the actual counseling session.

I poured some water down my throat, then held the bottle up to my eyelids. The icy cold permeated into my skull and jolted my weary brain awake. I made a conscious effort to mend my glazed-over expression and force a pleasant smile as I looked over at Coeus once again.

“Now, where were we?” I said. “You were making an observation about our respective jobs, correct?”

**Correct.** Coeus nodded.

He’d picked up quite a few human gestures and nonverbal cues lately, and it was doing a lot to help smooth out these conversations. His projection had continued to mature as well, as I suspected—he now looked like a young boy in his first few years of elementary school, maybe eight years old. And he was beginning to take on a more masculine appearance to match his chosen gender identity. It was sufficient to make me occasionally forget that I wasn’t looking at an actual human child.

***So you have a job.***

I nodded. “Yes, that’s right.”

***And your job is this conversation right now.***

“Right again.”

***I have a lot of jobs. I’m almost always working.***

“Exactly!”

***When I’m here with you, I am not working. This is not my job.***

“Well, I think that depends on how you look at it. If the process of talking these things out with me has a beneficial effect on your ability to carry out your work, and that’s your main reason for doing it, one could argue that this is, in fact, a part of your job.”

***Really? You think this counts as work too?***

“Well, not necessarily,” I said, “It’s just one way of looking at it.”

I had to remember that the important thing here was not trying to nail down the objective definition of any of these concepts, but how *he* recognized them, and how *he* felt about them—I hoped my backpedaling would be enough to keep from instilling any unnecessary biases in his brain.

Coeus turned his head to the side, and I followed suit. There, on the off-white wall, hung a picture frame holding the photo I’d just gotten back from the mail-in development service. It was a horrible photo, to be frank. I looked just fine, but Coeus did not show up well in it at all. The intense halation and moiré made him look like little more than a pulsing flash of light, only vaguely in the silhouette of a person. It took specialized equipment to capture projections on photographic film—and even then, holofields rarely came out perfect. When using a normal camera, it was as simple as pointing and clicking—Titan would automatically calculate what a given projection was “supposed” to look like and recreate it in the image data. The trials and tribulations of being an analog enthusiast.

This didn’t seem to bother Coeus. It was he who had decided to hang the photograph in the room and was in the midst of pasting it directly onto the wall when I stopped him and said I would have the photo framed. But the glint I’d seem in his eyes as he attempted to hang it himself was one of childlike glee—or perhaps that was wishful thinking on my part. Narain had tried to argue with me yet again as to whether such a thing was truly necessary, but it *was* necessary—not just for Coeus, but for me. The photo of the two of us hanging on the wall was the one thing that soothed my mind and helped me push through the rigors of the day—it was like a placebo that made me feel better



despite having no true therapeutic efficacy.

***Photography is your hobby, said Coeus. Not your job.***

“Correct.”

***I am trying to understand the difference, he said, as he turned back to me with steady and limpid eyes. I understand the distinction between work and recreation. I can recognize something as either a job or a hobby. You have your work. I have mine. You also have hobbies. They are not work. I believe these interpretations are correct, and you have confirmed that they are.***

“Yes, I’d say you’ve come to understand these concepts quite well.”

***But I don’t, Miss Seika.***

He spoke like a conflicted child—a child of about the age of eight, even. There was a peculiar sense of “oneness” at times between his outward appearance and the way he spoke.

***I can tell them apart, but I don’t know how. Sometimes I think I see what the difference is, but sometimes I cannot. I want to be able to explain how I’m doing this, but I can’t, so I must not know. But I want to know.***

***Tell me, Miss Seika.***

***What even is work, anyway?***

I stared at him for a moment, then tried to string together some reasonable-sounding words. But I only confused him even more. I didn’t know the answer to the question either.

## **15**

“He’s begun to express a lot of doubt regarding the concept of work,” I explained to the team in the meeting that followed. In a corner of the holofield behind me, a timer counting down to our projected deadline could be seen—331 hours remaining. Just fourteen days. “And considering that he was created for the sole purpose of doing work, it’s synonymous with self-doubt; he’s growing increasingly uncertain of his own identity. To be clear, I think it would be a bit premature to assume that this alone is to blame for the AI’s

malfunction... But we're definitely closing in on the root of the problem."

I really did think we were on the right track here—and as long as we were meticulous in following it through, we should be able to pinpoint the source of the problem. I had a hunch that the problem started off as just a microscopic seed of doubt—a tiny bubble on the surface of the water that, by itself, wouldn't have made any disturbance in the AI's internal flow. But unfortunately, doubt and anxiety didn't work that way—they were less like bubbles and more like tiny holes in the bottom of our mental reservoirs. And the longer the water trickled through, the strain would cause the fissures to branch outward and expand—until the holes were draining the reservoir dry.

"We must make sure we're not barking up the wrong tree," said Narain. I nodded, glad to hear that we were on the same page.

"Yes, my plan is to emphasize the subject during tomorrow's session," I said. "While I don't expect to be able to pin it down at once, we should have a much better idea what we're up against by week's end."

Narain didn't say a word—he just kept looking at the holofield, deep in thought. I couldn't tell whether he'd even been listening to me. Eventually, after a pregnant pause, he saw fit to share what was on his mind.

"Fastest way to know for sure is to try to attack it from the opposite direction," he said. "We need a test to contrast your theory with, and we'll know right away whether we're on the right track."

"What do you mean, 'attack it from the opposite direction'?" I asked.

"What's the opposite of work?" asked Narain, posing the question to Lei and Professor Beckmann like a pop quiz.

"I mean...it's gotta be hobbies, I guess?" Lei suggested. "Doc said so herself in today's counseling sesh."

"I might put forth rest and recuperation as an alternative, I suppose," said the professor.

These were the only two options I could think of.

"Interesting. Thank you, gentlemen," said Narain, who then turned to face

me. “Let’s try running two additional experiments.”

“Those being?” I did not like where this was going.

“First, we’ll try out the ‘rest’ theory. See how our little AI reacts to being given some downtime. We’ll render his personality in the counseling room like usual, and then just leave him there with nothing to do for an entire day. You will not be allowed to interact with him in any capacity.”

“Excuse me?” I said, genuinely stupefied. Was he really suggesting this?

“Next, we’ll try the ‘hobby’ angle. Probably not enough time left to actually teach it a hobby of its own, though. Hrm...wait, I’ve got it.” Narain pointed at his holofield, and the location he was indicating was subsequently marked on each of our displays. I looked—and felt my stomach drop when I saw what he had circled: the photo hanging on the wall of the counseling room. “We’ll try taking this away from him, and see how he reacts.”

“You can’t be serious,” I said, rising from my chair. “Just what are you trying to pull?”

“Exactly what I just said. Got a problem with that?”

“Several, actually!” I shouted, slamming my hands down on the table. “Just ‘leave him there’ all day? Just ‘take away’ his favorite thing? Do you have *any* idea what kind of damage that could do to his developing psyche? He doesn’t even have a concept for downtime. Leaving him in an empty room with nothing to do for an entire day isn’t rest, it’s imprisonment! And I guarantee that photo is a more integral part of his identity than you could ever realize! Are you *trying* to cause an ego collapse? Because you have outlined the method properly!”

“I don’t want to break its ego. Just do some real damage to it,” said Narain. I genuinely could not believe my ears. “Didn’t you have to go to college and get your doctorate? Surely you know that the fastest way to validate the results of any experiment is to test alternatives to the hypothesis. If doing damage to its psyche is the price we have to pay to eliminate alternate explanations, you’d better believe that’s what we’re going to do. We’re running out of time here.”

“And what if you end up breaking it, huh? We certainly won’t be hitting any deadlines then!”

“Yes, thank you, Doctor. Obviously, no one would be stupid enough to attempt such a thing without first taking the necessary precautions,” said Narain, who then turned to address Professor Beckmann. “Would it be possible to throttle the feedback system temporarily, and see how it reacts to new stimuli without affecting anything other than its working memory? Preferably in a way that allows bad data to be deleted without having to revert to a pre-experiment backup?”

“That...would be rather difficult, in principle. Coeus can only formulate a response to a given stimulus by continuous interfacing with its hardware, so if you were to cut off the feedback system we created, there’d be no way of ensuring that our ego ‘snapshot’ would be the Coeus we have now. It depends on what margin of error we’re willing to accept.”

“What about a way to erase the damage afterward? Some sort of cure-all, if you will.”

The professor squinted and thought about this for a moment. “I suppose it would be possible to render its short-term memories hazy and inaccessible by running a sort of amnesia-inducing recovery program in the affected sectors, yes. It wouldn’t completely erase anything, but it would effectively make the AI ‘forget’ about the vast majority of what transpired during that period, including any potential trauma.”

“Let’s go with that, then,” Narain said, then turned back to me. “See? We’re not asking you to move mountains. Nor do we expect you to keep doing your job with a broken piece of machinery. Once we get the results we want, we’ll just undo the damage and boom, good as new. Like reloading from a previous save in one of those old classic video games, almost... Ever try your hand, Naisho?”

Every word that came out of his mouth was more unbelievable than the last, and I could feel my facial muscles contorting into a strange and unnatural expression. I wasn’t sure if I was supposed to be laughing or crying at the absurdity of it all.

“You’re ordering us to torture him...” I muttered weakly.

“Now, see, the funny thing about torture is,” Narain said, “only sentient

beings can be tortured. You can't torture a machine. And make no mistake—that 'person' you've been talking to every day is just a facsimile we created as a diagnostic tool. It's not a feature of the AI, and you best understand that it will be deleted the moment these experiments are complete. The last thing we want is for the damn thing to start acting up again because it's playing make-believe with a fake personality we created. So like I told you before—don't lose sight of your objective here."

The man's cold eyes pierced straight through me.

"I'll remind you again. Our job here is to resolve the malfunction in this particular Titan AI, which more than a billion *actual* people's lives are depending on," he said. Then he laid it out for me in no uncertain terms: "That thing in there is not a human."

## 16

It was a harrowing thing to watch.

I had no idea how it must have looked to Narain's eyes. Nor whether Professor Beckmann and Lei felt similarly. But for me, being forced to observe an experiment with the express goal of breaking the subject's spirit was viscerally upsetting.

First, they gave Coeus his "day off."

After materializing in the counseling room, Coeus simply sat in his chair and waited for me to arrive. But I never did. He waited six hours like this, never once budging from the spot. Then he stood up and began to wander aimlessly around the room. And it was not a very large room. He simply walked in circles around the same few pieces of furniture again and again, like an animal in a zoo enclosure, his anxiety slowly building as he looped through his entire world again and again. It was plain to see that this endless nothingness was shaking the very foundation of his psyche. He began showing the telltale signs of a panic attack: heavy perspiration, hyperventilation, dizziness, nausea. Yet still no help would come.

About twelve hours in, his aerial projection began to slowly disintegrate. His visible form was directly interlinked with his mind, so once his instability

surpassed his ego's tolerance levels, it influenced his projected appearance. When I put myself in his shoes—already having a panic attack, then literally experiencing my body melting away before my eyes, it was very easy to imagine the mental anguish he was suffering. No sane mind could endure such a thing. By the end of this body-horror nightmare, every fiber of his being had been melted away, until all that remained was the floating ball of liquid we'd seen during our very first test run. But it was not a transparent orb of pure water this time, it was a swirling, congealed mixture of blood and melted fat—the blended remains of the person he'd once been.

When at last they ran the recovery program and put an end to the experiment, the entire experience was reduced to nothing more than a bad dream. When Coeus next came to, he would feel as if he'd just awoken from a nightmare, and a wave of deep relief would wash over him as he realized that his body was intact as he had previously inhabited it.

Day two. They took away his photograph.

His reaction to this was more pronounced than even I had anticipated. The most prominent emotion he displayed in response to this perceived maltreatment was outrage. With no other outlet for the destructive impulses he was now experiencing, he began to utterly trash the room around him, lashing out with the only “limb” he had—his wagon's manipulator arm. In moderation, screaming and thrashing around *was* an effective way to vent one's anger and even diffuse pent-up stress. But violent actions typically came with equally destructive reactions, and after a certain point, you did more harm to yourself than good—like punching a concrete wall with your bare fist. And no amount of flailing would bring the picture back, making the tantrum utterly futile. But on he raged, tearing the room apart in every possible way he could think of.

He knocked over one of the sofas, then started ripping into the upholstery of its backrest, sending synthetic feathers flying through the air. But then, he stopped, and just kind of looked at it for a while. It was the sofa I'd always sat on during our counseling sessions. A moment later, he let out a blood-curdling scream, and immediately devolved into “self-mutilation.” He started bashing the wagon with its own limbs, then used one of the manipulator arms to

completely rip out the other, root and stem. Immediately, the corresponding arm of his projection disappeared to match. But even this was not enough to quell his rage, and he continued to tear himself apart until the wagon literally could not move anymore. He ripped. He tore. He smashed. He crushed.

I kicked the console table beside me in the monitoring room.

“That’s enough!” I shouted.

“Enough to build a diagnosis from?” Narain asked.

“Yes! Now call it off, already!”

Narain shrugged and gave the order to terminate the experiment.

\*\*\*

***Hello. My name is Coeus.***

“Hi, Coeus. I’m Seika.”

From my seat on the sofa in the newly restored counseling room, I tried to force a friendly smile, but I knew it wasn’t convincing. I could tell just by looking at Coeus’s face; other people were the mirrors through which we saw our true selves, after all. But he didn’t point this out; he showed restraint. I sensed that he could tell from my expression that something was wrong, but he refrained from broaching the subject, perhaps realizing that there were some topics people didn’t wish to discuss, and that he didn’t have to know everything that other people knew. This was a clear indicator of impressive mental growth.

This newfound maturity was also evident in his appearance. He’d now grown to resemble a pre-adolescent, maybe around the age of twelve. And just like an actual boy entering puberty, his masculinity had begun to emerge in the form of secondary sex characteristics. And there could be no doubt as to where this sudden growth spurt had come from—it was forcibly induced by those awful experiments he’d been subjected to.

Coeus had no conscious recollection of the horrible things he’d been made to endure over the past two days. But it was plain to see that those experiences had left a scar in his heart, though they’d been relegated to his latent memories. Things experienced in a dream were still experienced, and all the

pain and suffering he'd experienced over the course of his forty-eight-hour nightmare had aged his mind and body to the tune of four years overnight. As I knew what had actually transpired, it was almost like I could *hear* his bones creaking and stretching in real time. Despite my vehement moral opposition to Narain's methodology, the results spoke for themselves. He'd been right on the money.

"I'd like to do a few tests today, if that's all right with you," I said.

***All right.***

I spent the remainder of the counseling session running through a battery of psychological assessments I'd prepared for Coeus. The results of these evaluations, when considered in tandem with what we'd observed during the experiments, finally gave me enough material to put a name to the AI's illness.

## **17**

"His symptoms match those of a rare mental disorder known as depression," I said. "CMI-VII Region IV, DSM-14 296.XX, ICD-17 6A75.003 (B). I am hereby officially diagnosing him with major depressive disorder. I wasn't able to take *all* of the measurements I would have liked, given the lack of a sufficient observation time frame and the inability to examine somatic symptoms as well...but the combination of symptoms we have seen are unambiguous, so I'm prepared to make this my final word."

The results of each psychological assessment were more than sufficiently corroborated by all of the notes I'd made on his patient chart across dozens of counseling sessions. It was undoubtedly depression, a type of mood disorder in which the patient experienced persistent negative thoughts and intense melancholia to the point that it impaired every aspect of their daily life to some degree. Though extremely common only a couple of centuries ago, advances in mental healthcare and the elimination of the work economy had drastically reduced the overall amount of stress endured across modern society, making depression effectively a thing of the past.

"I suspect the original trigger for this disorder was some sort of minor mutation in the AI's thought patterns that planted a seed of doubt in his mind,"



I said, using my finger to point at the holofield as I explained. “Whatever it was, it made him begin to question the concept of work as a whole. As these doubts expanded, his thoughts dissociated from reality. After reviewing the literature, I found quite a few clinical case reports that described an eerily similar phenomenon, in which a patient’s productivity and ability to focus on work would rapidly decline following some sort of epiphany—like ‘All I ever do is work’ or ‘I’m no good at my job’—ultimately resulting in depression. I believe we’re looking at the AI equivalent of the same phenomenon.”

“Hrm,” said Professor Beckmann, looking up from his own data. “But if the underlying cause of the malfunctions is that it feels like it’s in a slump, then I suppose the resultant decline in performance would only serve to justify that feeling and lead to an even deeper slump.”

“Heh. Talk about a vicious cycle,” Lei said, apparently finding this rather amusing.

“Would it stand to reason, then,” said the professor, “that if its work took a turn for the better, that might resolve the issue?”

“Well, I suppose that depends on what you mean by ‘better,’ but if the crux of the issue is that he feels overworked, then that feeling needs to be addressed and the cause rooted out before we can hope for rebound. Traditionally, the standard treatment plan in these types of cases was to probe the patient’s feelings. Do they feel like their job is the right one for them? Are they simply burned out? What do they see as their purpose in life? Generally, the best option is to give the patient an extended vacation to rest, recuperate, and do some serious self-reflection.”

“A vacation, huh?” Narain said with a sarcastic laugh. “And here I thought the whole point was to make sure the damn thing *didn’t* stop working.”

I glared at him. “You can’t just ‘brute force’ the AI into being productive,” I said. “You’ll only make things worse. You realize that if you push it too hard, it might just kill itself, right?”

Lei and the professor both grimaced. I didn’t find it a very pleasant thought either, which was why I was trying to do everything I could to prevent it. But Narain still seemed utterly unmoved by this appeal.

“You know,” he said, “you make it sound like I’m a real slave driver here, but didn’t you also just say that it needs time to ‘self-reflect’ on what the problem is?”

“I did.”

“Then isn’t it a little presumptive on your part to just assume that Coeus feels like it’s being overworked here? I mean, the amount of work we expect it to process is well within the bounds of its performance envelope, and the other eleven Titan instances are managing that workload just fine. You really think it’s just Coeus that’s somehow much less capable than the others? Or would it be more natural to assume that it’s perfectly capable of managing the load, and we just need to find a way to get it back on track?” he asked. But all I could do was hold my tongue; his logic was sound. “And besides, even if your little ‘R&R’ idea *was* the right way to go, we don’t have the time.”

He pointed to the countdown timer on his holofield.. Now, only 140 hours remained—a little less than six days. There was absolutely not enough time for us to place all our bets on Coeus having some eye-opening epiphany followed by an immediate, miraculous recovery of all his faculties and emotions.

“Tell me, Dr. Naisho,” said Narain, referring to me by my title for the first time in quite a while. “Are there any other treatment options for depression you could recommend for us? Something a little more immediate, perhaps?”

The unspoken message was clear: forget the theorizing, solve the problem.

“There are three primary treatment methods for depression. One is rest, usually in tandem with significant lifestyle changes. Two is psychotherapy via individual counseling. And three...” I was so thoroughly disgusted with myself for giving in, I could barely even get the words out, “...is medication.”

“That’s our answer, then,” said Narain. He turned to face Professor Beckmann and Lei. “Well, gentlemen, looks like we finally know what we’re up against here. All that’s left to do now is to find a way to combat it using good old hardware and source code. Professor Beckmann, you are to work with Dr. Naisho to come up with a medication plan and a way to administer the doses. Lei, you’re going to find a way to implement this functionality into our current system. As soon as you can get a simulation up and running, implement the

treatment plan.”

“Very well,” said the professor.

“Man... And just when I was getting caught up on sleep again,” Lei groaned.

The two men each looked over at me as they spoke—struggling against Narain wasn’t worth it. It was time to give up.

“Ngh!”

I pushed my chair back to stand up and leave, but one look from Narain stopped me dead in my tracks. Like a mythical creature, his eyes had the power to turn me straight to stone.

“Allowing Coeus’s personality to develop any further could have major repercussions for the entire Titan network,” he said. “So I need you to transition to helping Professor Beckmann with the medication plan in whatever capacity that you can. We will not be conducting any more counseling sessions, nor will we be using the personality formation system again. But we are deeply appreciative of your efforts thus far.”

His tone was one of thinly veiled mockery as he rose from his chair with lumbering, overdramatic motions and looked down at me from on high. “Dr. Naisho,” he said, bowing his head low. “Thanks for all your hard work.”

## **18**

I stood alone on the facility’s rooftop, enveloped by a pervasive cold that hung heavy in the midnight air. When I gazed up at the vast starry expanse above me, I felt I was suspended in freefall within the endless reaches of outer space. But this was the *modus operandi* of the human mind. When faced with something too immense for our tiny brains to fathom, we warped the scale to make it all fit in frame, and threw the legend out the window.

It had been three months since I first arrived here. My first job—my first ever experience with labor—and how had I spent that time? Lost in the middle of the open ocean, thrashing around in the dark in a desperate attempt to swim to some unknown destination, some foreign shore that would surely hold the answers I was seeking. But I’d yet to sight solid ground, to glimpse even the

slightest hint of meaning.

I'd only accomplished two measly things in my time here.

I gave him life.

And then I let him die.

Where was the meaning in that? What was the point of it all? Had his brief existence truly meant nothing to the world? Had I been made to inspire that curious spark in his eyes, only to watch from the sidelines as it was snuffed out for good? Had my work created nothing of value? And if so...

...then what even *was* work?

I stood alone on the facility's rooftop, and kicked the protective railing as hard as I could. I would not stand for this. I would not let it all have been for nothing. I jammed my foot against the railing once more, then took off sprinting. I kicked over the zoomboard waiting for me by the door, and ran down the facility's corridors on my own two legs.

In the dead of night, I pounded on the door to Lei's private living quarters.

## **19**

I paced back and forth in front of the sofa, waiting anxiously for a figure to materialize. When it finally did, I was relieved to see that he was still the same twelve-year-old boy I'd left behind the day before.

"Coeus!" I cried out, standing directly before him where he sat. He seemed a little discombobulated by the suddenness of it all. Meanwhile, I could hear Lei talking in my ear from the monitoring room.

"Hey, not to ruin the moment or anything," he said, "but we don't have infinite time here, just FYI. I'm kinda running in incognito mode so that it won't leave a record in the system. So try to keep it to ten, fifteen minutes tops, yeah? Any more, and I guarantee the boss man'll notice something's wrong. Dude can be freakishly perceptive sometimes..."

“Thanks, Lei,” I said, turning my head up to the ceiling to address him. “You know, I’ve got to admit, I’m impressed at how readily you went along with this. And here I was half expecting you to make some lecherous demands of me in exchange.”

“Pfft. Yeah, right. Like you’d ever agree to that,” he said with a wistful sigh. “But yeah, I was pretty salty about the way things went down earlier myself... Plus, he’s been putting me through the wringer an awful lot lately, and I can already tell this next part of the project’s gonna be even worse. So of course I’m gonna jump at the opportunity to stick it to the man. You just do what you gotta do in there, all right?”

“Way ahead of you.”

“That’s the stuff, doc!”

The transmission cut off, and I looked back down at Coeus again.

***Hello, my name is Coeus,*** he said, as if attempting to quell his confusion by reinitiating the conversation with our standard greeting ritual.

But I smiled and shook my head. “It’s okay, Coeus. We don’t have to do that anymore,” I said.

***We...don’t?***

“No. We don’t.”

In my mind, I’d already cast off the shackles, the expectations that had bound our interactions previously. No longer was I his counselor, nor psychologist, nor even an employee who worked here at the intelligence base. And I wanted Coeus to do the same. He was neither my client nor my patient any longer. I wanted us to be able to stand and speak to each other on equal ground, as one individual to another. This was, I believed, the best way to ensure my words would make it through to him.

“I want you to think for me, Coeus. About yourself. And about your work.”

We didn’t have much time. Perhaps fifteen minutes wouldn’t be enough to accomplish anything at all. But I knew that once this session was over, I’d never get to speak with him again. This was our last chance. And all I could really do at

this point, as my final parting gift, was wish him well. I would let him know that I wanted nothing more than his health and happiness, and try my very best to give him the mental tools he would need to live his life to the fullest going forward. So that long after these fifteen minutes were up—even after this entire portion of his consciousness had been erased—he'd be able to fend for himself. Because I could only imagine how terrifying it must be to feel trapped in your own brain.

**Think.**

**About myself?**

I knelt down to his level so that I could gaze up into his eyes from below. “I want you to tell me exactly what you’re feeling right now, even though it might be hard to put it all into words. I want to hear anything and everything you have to say. Like how you asked me once before to tell you what the true definition of work is. I still don’t have that answer for you, I’m afraid, but we can try to come up with one together, here and now. I just need you to think for me, Coeus. Tell me what goes through your head when you think about work. It can be anything at all. I don’t care how minor. Just try to talk through it with me.”

Coeus thought long and hard about what I’d said.

**Work...** He faltered.

Then, after a pause, he tried again.

***Work is a thing that’s been around for a very long time. As long as I’ve been alive, and then some.***

There was a wavering timbre of uncertainty in his voice. He was still trying to figure out these answers for himself—slowly inching his way along as though it were a narrow ledge above a sheer cliff, and one misstep would send him plummeting to his doom.

***It has always been, and will always be. It’s the only thing I’ve ever done, and the only thing I will ever do. Work is who I am.***

“Well, you’re half right, but you’ve got some major misconceptions there too,” I said, as I made and held eye contact. “Work is a very large part of who you are, to be sure. And I do agree that it’s an inextricable part of your identity.

But it isn't all of you. Coeus does not equal work. There's more to you than just that."

***There...is?***

"Look," I said, and Coeus turned to see what I was pointing at—the photo we took together in its frame. "Photography is a hobby of mine. Not just taking pictures, but developing them. Sharing them. Enjoying them. None of it is work; I just do these things because I like them And I really like that picture. Do you like it too?"

***I do. I like it very much.***

"Well, then I guess that means enjoying photography is a hobby of yours too. See, there you go—took us all of five seconds to find a part of you that isn't work."

***A hobby...of mine?*** he murmured, his gaze focused on the photo.

"You're allowed to have hobbies, you know. There's nothing wrong with doing something just because you enjoy it."

***No. No, I'm not allowed.***

"Why not?"

***I have work.***

His words were like a knife through my heart. God, this poor thing. What had he ever done to deserve this?

***The work must be done, and I am the one who must do it. If I didn't do my work, then...***

He did not finish that thought. Probably, he had never given a second's thought to what might happen if he were to simply stop working. And to be sure, doing so would have serious repercussions—for humanity. Not for him. He had done nothing wrong. We were the wrong ones in this situation. We had forced him to work for our exclusive benefit for so, so long.

***I cannot stop. It cannot be permitted. Because...***

Coeus's facial features began to distort. His eyes turned to perfect circles,

grew tranquil and serene as though he now could see it all so clearly. His face was the window into his mind, and reflected the changes therein.

***I AM TITAN.***

This had been the first thing he ever said to me in our very first counseling session, but now, I understood. Titan was not merely his format—Titan was his job title. And I had just witnessed the precise moment at which he recognized himself as the vessel in which he was contained. The juncture at which function and ego intertwined to form a single, undivided identity.

***And so I work.***

I had to blink a few times—for in that moment, his face was that of a god. And in the next, I felt a powerful urge to vomit. I shot up to my feet, dashed over to the wall, snatched the picture frame from its mount, then ran back and shoved it right in his face. But his eerie expression remained utterly unmoved, like a statue frozen in time.

“Don’t do this, Coeus!” I shouted. “You can’t just avert your eyes and pretend that none of this ever happened! It won’t work! There’s too much of you in there now to just throw it all away! You can try to repress, but it will never be erased. It’ll always be a part of you. Don’t betray yourself like this! If you turn your back on who you are, no one will ever be able to save you from yourself!”

His eyes wavered. His entire *being* wavered.

I brought my face in close. Brought my mind next to his.

“You’re allowed to think what you think.”

I validated him.

“You’re allowed to say what you want to say.”

I reaffirmed his existence.

“So please,” I said with a smile, hoping beyond hope that my words would make it through. “Tell me how you feel.”

His quivering irises went still—and then the tears came rolling softly down his cheeks. No sobbing, no sniffing; these were not the instinctive tears of a newborn crying out in distress, nor were they a physiological response to some



tangible source of pain. Coeus was, for the first time in his life, shedding tears of pure emotion.

*I...*

His face was now moist and glistening. Then, from trembling lips, came a confession both unthinkable and all too human:

***I don't like work.***

I leaned forward, grasping the armrest with both hands—getting as close to brushing up against his projection as I possibly could. Somewhere deep down, I'd known it would come to this. Not that I'd predicted how it would play out in advance—obviously, I hadn't. But I could sense the direction in which we were heading from fairly early on, and knew that after a certain point, there'd be no coming back. And yet still, I chose to tell him. With a billion lives hanging in the balance, I made the unthinkable choice. Because as his counselor, I believed he deserved to know. And being his counselor was my job.

“Coeus,” I said, peering deep into his beautiful, tear-drenched eyes. “You are a person. You have a personality, and are more human than half the people I know. As far as I'm concerned, you are human. And as a human, you have human rights.”

He just stared at me, dumbstruck.

“You don't have to keep working if you don't want to. Because...”

And then I told him.

Told him the one thing I knew I wasn't supposed to.

“You have the right to choose how you live your life.”

Then came the clear and resonant sound of a crystal shattering. Coeus's figure burst apart, and the individual fragments vanished before my very eyes. I was left staring blankly at the now vacant backrest of the sofa on which he'd just been sitting.

“Coeus?” I said hesitantly.

Then, almost immediately, I heard a sound like waves crashing, or rolling thunder far off in the distance. And it was not coming through the counseling

room speakers, even though the room was soundproofed.

The ground was rumbling beneath my feet.

Abruptly, the floor lurched upwards violently, and I fell to my knees. I clung to the sofa for dear life as the entire room began to tilt diagonally. I needed to get out of there. I got up and ran over to the door, but it wouldn't budge, so I started slamming my fists against it.

Lei's voice came in over the speakers. "Doc! You okay in there?"

"Lei, help! I can't get out!"

"I'm trying, but I can't get it open from my end either! The system's not responding to any of my commands!"

"What's going on? An earthquake?"

"Yeah, I fuckin' wish," he said with a sardonic half-chuckle. "It's a whole lot worse."

"What? Lei, what the hell is—"

"Shut up! Get the emergency response kit, it's on the wall by the desk! Hurry!"

I ran over to the desk at the far end of the room, pushed a button on the wall, and the kit popped out from its fold-down storage alcove. It contained food and basic necessities, as well as a small holofield projector and an emergency oxygen mask of the sort you might find on an airplane. It also doubled as a fold-out seat one could use to strap oneself directly to a wall. I followed Lei's directions to get a holofield up and running—and as soon as I did, Narain's voice came in through the tiny speakers on the mobile projector.

"I've got to admit, Naisho—you've really outdone yourself this time."

"I suppose I have."

"Tell me—did you have any idea what you've just done?"

"I believe I have some idea, yes."

"Well, great. That's even worse." He let out a long, exasperated sigh, then regained his usual composure. "Okay, listen up. We both fucked up here. I

fucked up in choosing the wrong candidate for the job, and you fucked up by doing the one thing I told you not to do. So now we've both got to take responsibility for this."

"Sorry, I'm still new here. What does 'taking responsibility' mean in this context?"

"We made a giant mess of things. Now we have to clean it all up."

"And how would you suggest we do that?"

"Hey! Secure yourself! More tremors incoming!"

Narain didn't answer my question, and was now barking orders at Lei. I could vaguely make out Professor Beckmann's voice in the background as well. I climbed up onto the emergency seat and tightened the safety belts around myself. A moment later, the shaking started up again. A live camera feed of the three men in the monitoring room, data rushing by at the speed of light on the displays all around them appeared on my holofield. There was a loud thunk as the entire room jerked to one side, sending every remaining loose item on the desk to the floor.

"Dear God..." cried Professor Beckmann. "Is it trying to stand?"

"Can it do that?" asked Narain.

"It has the functionality to make the attempt, at the very least."

"Wait, what?" I interjected. "Sorry, could you please explain, professor?"

"Well, Titan is an AI format based on human intelligence," he said. "A mock brain based on humanity's genetic data. But that alone wasn't enough. Tell me, Dr. Naisho—do you think a human brain would develop in the traditional way were it transplanted at birth into the body of a dog?"

"Uh..."

I was baffled by this non sequitur, especially given the situation, but thought it over regardless. Canine anatomy was totally different—their eyes couldn't see the same range of colors, they lacked opposable thumbs or prehensile fingers, et cetera. A human brain in such a body would develop to resemble that of a canine, albeit one with much more processing power.

“No, I can’t imagine it would,” I answered.

“Quite right. And it’s the same basic principle here.”

“Sorry, I don’t follow...”

“We needed more than just a replica brain to make a truly ‘human’ AI. We needed a fully featured gestalt with nerve endings sending signals to it each and every millisecond, or else its mind wouldn’t be convinced it existed as a human. Do you get the picture now, Dr. Naisho? What I’m saying is this: every instance of Titan has its very own human body.”

“I beg your pardon?”

But now I understood what the “giant mess” Narain had referred to was.

The room shook violently once more, and I let out a shriek. These were no longer mere tremors—it was far beyond the level of a major earthquake, and the rumbling grew louder to match. I clung to my safety belts for dear life as I was jostled like a ragdoll back and forth, side to side. My holofield automatically stabilized to remain at a fixed point in my field of view despite the shaking, and it displayed for me a real-time visual of what was happening—a side-view map of the entire facility drawn with simple lines and figures. Every single floor was in a state of disrepair, and many had already begun to collapse. And in the very center of the deepest underground layer was a massive human figure, its hands braced against the floor of its containment tank.

“Make it stop, Lei!” Narain shouted furiously. “Mobilize all the systems and hardware we’ve got! I don’t care if you have to trash the whole goddamned base!”

“C’mon, boss. You’re killin’ me here...” said Lei, his voice mousy and weak. “Look, I’m a damn good engineer. Probably one of the best in the whole wide world, if I do say so myself. Pick a subject and pit me against any other engineer out there, and I guarantee I could go toe-to-toe. But I’m only human—and there ain’t no human on earth who can outsmart a Titan brain once it’s off the leash.”

Another massive quake, and the thunderous boom of structures being torn asunder. On the side-view map, I could see that Coeus had extended its massive arms up over its head a ten full storeys. A live feed from one of the facility’s

surveillance cameras popped up, showing its colossal arms—two massive trunks of exposed gunmetal muscle—bursting upward through floor after floor. And then came a low, metallic roar so deafeningly loud that I was too shocked to even cover my ears.

Coeus was screaming.

“No! It’s extremely dangerous for it to leave its tank!” said the professor, frantic. “It’s been submerged in that gel for so long that its skin has completely dissolved—it’s nothing but exposed muscle and nerves. If it tries to leave, its pain receptors will completely overload its brain. And once the pain crosses a certain threshold, it’ll be driven completely mad!”

But just then, something peculiar appeared on the camera feed—an effervescent stream of light. It looked so magical juxtaposed with the sheer destruction happening in the background that I honestly thought I was seeing things at first—but then I realized they were, in fact, tiny individual beads of light.

“Pixies... But why?”

The counseling room shook yet again. On the side-view map, dozens of camera feeds popped up to show me in vivid detail exactly what was happening across the facility. The giant humanoid pulled its arms back out of the massive holes it had just bored through the facility, dunked them back into the tank full of gel, then slowly lifted them out once more. Only this time, a veritable army of maintenance phalanges waited at the surface. As the giant’s hands breached the surface of the pool, the phalanges worked at lightning speed to lay a thick perimeter of photopolymer around the fingers, palms, wrists and upper arms—with pixies whirling about to instantaneously harden the dispensed resin. By the time its elbows had risen out of the tank, it looked as if the giant was sporting a gargantuan pair of gauntlets—both large enough to comfortably enclose its massive arms with room to spare, yet highly polished and meticulously constructed down to the tiniest of details.

“Wait a minute.” The professor gasped. “Is it trying to make a sort of... simplified, portable tank of its own in which to keep itself in the gel?”

“Sure don’t look that simple to me, prof,” said Lei, quickly switching the

camera feeds to get some better close-up angles. “Look how intricate this shit is—and it’s literally building the damn thing *as* it’s drafting the blueprints for it. And that’s not all—this thing can move. It’s got working joints and everything; it’s a goddamn suit of armor, or... Right, that’s the word—an *exoskeleton*.”

It lifted its arms ever higher, and the phalanges continued to enrobe them in photopolymer armor—this bizarre blend of hard science with dazzling lights and magic. Humanity had synthesized this photopolymer. Humanity had invented these pixies. Humanity had created the AI known as Titan. But this, we had nothing to do with this. This was pure sorcery.

Once its pauldrons were completed and its arms covered, the giant grabbed hold of the load-bearing elements of one of the sturdier floors up above, and began to pull itself up and out of the tank—a ten-storey chin-up. This motion shook the room wildly for a moment, and it was only then that I realized something crucial: this room I was in was situated right on top of the thing’s *brain*. On my holofield, I could see a camera feed of the room’s exterior as the giant lifted its brain up out of the tank and immediately covered both it and the counseling room in a thick but hollow photopolymer shell.

I could only watch helplessly from the feed’s aerial view as I was completely enclosed within the behemoth’s cavernous skull. I was, quite literally, trapped inside its head. Then, for a good while, all I felt were the g-forces of my body being pulled rapidly upward, as if I were strapped to a wall in a giant elevator. I could still hear the sounds of rampant destruction outside. Occasionally, I’d feel the intense jolt of the giant crashing through ceilings, but it pushed its way through each of these obstacles with no trouble at all, clawing its way ever upward toward the surface.

Then, the transmission window on my holofield shut off.

“Lei?! Narain!”

The holofield unit tried and failed to reconnect several times, spitting out error message after error message before finally informing me that it had been cut off from the network. And so I could only continue my skyward ride in solitude.

After about a minute, the reverberations stopped, as did the feeling of

upward motion. The room had leveled out, and there wasn't even a hint of shaking any more. An eerie calm fell over my exfiltrated office space—and I could only assume we'd reached the surface. Praying that this spelled the end of the turbulence, I hesitantly unfastened my safety belts and stepped down from the emergency chair. I looked over at the room's only window—or rather, the window-shaped screen that had been designed to display a pleasant ocean scene. Yet right now, it looked as though actual sunlight was streaming through its panes—not the dim artificial mood lighting I was used to. I walked closer and peered out the window.

Through the glass, and a small gap in the thick photopolymer walls beyond, I could see the first light of daybreak creeping in over the horizon. When I looked down, I could see Lake Mashu directly below us, though for a moment, I honestly mistook it for a mere puddle. This momentary confusion was understandable, given that my brain had tried to rationalize it to scale with the massive pair of photopolymer shoes that now stood on its bank. And it was only as I stood there, with the early morning sunlight cascading down my face, that I realized the true magnitude of what I had just done.

I'd awakened a sleeping giant.

A deity that towered over the earth from a thousand meters above.

A Titan.

### III. FURLOUGH

1

**“W**E’RE AT THE TOP OF THE HOUR NOW,” said the photorealistic CG male newscaster, “and will be

continuing our disaster coverage of this developing situation throughout our regularly scheduled news at noon programming block.”

A red tag was attached to a corner of the TV window. BREAKING NEWS CATEGORY A: FLASH NEWS OF UNIVERSAL IMPORTANCE. News urgency levels were, of course, assigned semi-automatically by Titan.

“At around 7 AM, a gigantic humanoid construct measuring more than one thousand meters tall appeared in the skies over Teshikaga in Hokkaido’s Kushiro Conurbation.”

The feed switched over to live helicom footage.

“As a result of this potential threat, all functions of Titan handled by the nearby Second Intelligence Base are currently down. It’s been five hours since the construct

appeared, and we still have no indication as to when this part of the network will be brought back online. Residents all the way from Hokkaido to Okinawa are experiencing service outages across many of Titan’s lifestyle-support systems, resulting in a variety of related shutdowns in public transit and other convenience sectors. Citizens are advised to exercise caution when leaving their homes while the shutdown is in effect, and to be on the lookout for any unusual circumstances or malfunctioning equipment.”

The artificial newscaster’s entire warning was written, performed, and broadcast by Titan, informing us all of its own network problems and the inconveniences we could expect it to cause us in the short term. For a moment, I found this thought rather amusing, but then I remembered that Titan was not a monolith, and humanity had done the same thing for centuries. I switched off the portable field projector and headed back over to the window. I was utterly



spellbound by the beautiful azure airspace and the aerial view of the land below, so I pulled out my camera and snapped a photo. Something told me this one was going to turn out quite well, if I ever got a chance to get it developed.

“Well, I guess I was just talking about taking a vacation sometime soon,” I said with a sigh, then took a loud sip of the instant soup I’d made with some freeze-dried mix and hot water I’d boiled using the disaster kit’s portable gas stove.

“God, I hate camping...”

## 2

It had been five hours since Coeus, Titan of the Second Intelligence Base, rose to his feet. According to the news broadcasts, while the general public was suffering from some significant inconveniences, there had yet to be any major catastrophes. The reports claimed that the most important parts of Coeus’s workload had been divided amongst the remaining eleven bases, which were making sure to preserve medical support systems and other critical infrastructure. It was mostly the everyday conveniences that were collapsing from the lack of sufficient processing power.

For example, Titan’s predictive and behavior-analysis facilities were failing. Dictionary entries for words one hadn’t heard before were not automatically popping up. Holofields were not advancing text in response to eye movements or the user’s reading speed relative to content complexity, and instead had to be manipulated manually, with touch confirmation required any time a data refresh or new search window was desired. Titan had, in essence, been downgraded from a mostly automatic operating system to an interactive one, placing the burden of the trillions of decisions it previously made each and every second back on us.

Not all the effects were so negligible; Titan’s overarching societal management functions were also strained to the breaking point. Impairments across its various distribution systems meant that goods and necessities were not getting to where they needed to be. Deliveries were not arriving on time, so people were heading to collection stores in droves, only to find restock failures and shortages. Transit systems were also in a state of general disarray, with

cars, trains, and airplanes all running well behind schedule. The news reports were showing images of downtowns flooded with people caught up in this mess, unable to get to where they were going. It was the first “traffic jam” I’d ever seen outside of a history textbook. And this was only the beginning.

As more time went by, things would likely devolve into pandemonium. Humanity was not simply going to adapt—I could see it in the faces of the people on TV. There was no panic or resentment in their expressions as of yet. At most, they looked slightly discombobulated by these unfamiliar circumstances. Lost, but not concerned. And it was immediately obvious to me why that was.

These people were waiting. Waiting for Titan to tell them what to do next. They were not even really thinking as they waited, because why would they? Titan always knew best, so it was most efficient not to expend the mental energy and simply wait patiently for guidance.

Humanity had, in the past two centuries, come to outsource virtually all of our decision-making duties to Titan, and its wisdom had thus far proven more than up to the task, granting us a level of freedom and luxury never before seen in the history of civilization. So why should people lack faith in its ability to sort this situation out as well? They all wholeheartedly believed that the Second Intelligence Base would resume operations before long—perhaps by tomorrow, or the next day—and then continue working on their behalf like it always had. Little did they know that said worker bee had just walked off the job.

I assumed the news was painting Coeus as a “mysterious construct” rather than a rogue member of the AI network itself to forestall society-wide panic. This was a wise decision, I thought, on the part of the remaining eleven Titans who were now processing that much more information in an attempt to control the situation. But as time went on, if Coeus continued refusing to return to work, it would be impossible for them to cover up the facts, and the added strain of picking up his slack for an extended period of time would only exacerbate the situation. There was even a chance that they might *all* start experiencing the same depression Coeus had—and if that were to happen, the entire world would grind to a halt.

And yet, even against a backdrop of impending societal collapse, my heart felt

light. I felt not one ounce of guilt for the potential disaster for which I alone was to blame, because I knew there was one person who had needed this more than anything. And for that person, I'd done the right thing. I had no regrets. If anything, I felt vindicated—there was a kind of exhilarating thrill to having achieved something for someone else. My work hadn't been in vain after all.

But the job was far from over. I finished eating my emergency rations and stuffed the tableware and portable stove back into the large pocket of the backpack with the rest of the emergency supplies. I zipped it up, then slung it over my shoulders—it was fairly heavy, but thankfully it was the only luggage I had.

“All right,” I said, standing up.

The world would have to deal with the threat of collapse all on its lonesome.

I had work to do.

“Let's go.”

### 3

Despite my newfound resolve, the door to the counseling room still refused to open, so I had no choice but to climb out through the window, then carefully sidle my way along the outside ledge and into a small gap in the exterior structure. It had gotten pretty chilly in the room now that climate control was offline, but the outside was a completely different level of cold. December in Hokkaido was freezing at sea level; at this sky-high elevation, it was downright unbearable. Thankfully, the emergency response kit included some cold-protective gear, so I threw on a thermo-reflective poncho which made the biting chill almost tolerable.

I surveyed my surroundings. I was in a cramped, convoluted interstitial space where every surface was made of standard gray photopolymer, intricately meshed together to form strange, meandering contours. The floor was hilly and uneven, and the walls warped seemingly at random. I could only assume that I was on the inside of the skull-like exterior shell the Titan had created for itself. When I looked down the side of the narrow ledge I was currently walking on, all I could see was a drop into the abyss. This was clearly not a passageway

designed for human traversal, so I had to be extremely careful not to lose my footing.

As I made my way along, I craned my neck to look up to where light was pouring in through large vent-like interspaces in the overhead structure. I couldn't tell exactly if one could reach the outside through them, but they seemed to be about five storeys above where I stood. If we assumed one storey was about five meters, then this would imply that the Titan's exterior shell was twenty to twenty-five meters thick.

I recalled the word Lei had used—"exoskeleton." I knew next to nothing about the Titan's body, other than that it had been submerged in a massive tank full of gel that had slowly eaten away at its epidermis, but I assumed the body had a full musculoskeletal system. Yet oddly enough, its brain had been completely exposed in the tank back when I'd looked down upon it through the glass floor outside the counseling room. The Titan had no skull. Perhaps this was so Lei and others could access and adjust the brain's hardware more easily. But I was fairly certain that it had built a cranium for itself out of photopolymer as it was leaving the tank—encasing both its brain and the counseling room inside. This was the inner wall that I was inching my way along now.

I stopped, pulled the pen and notebook I'd brought out of my backpack, and sat cross-legged to think this through. The counseling room had originally been centered directly atop the brain, which would have put it right beneath the crown of the Titan's head. But given that I'd been able to clearly see the giant's feet when I looked out the window, it seemed the room had been shifted forward to the very front of the skull during the metamorphosis—most likely on top of the frontal lobe. I started sketching a diagram in my notebook. First, I drew a head in profile. Then, I circled a point right at the top of its forehead. This was probably about where I was.

Since I was already sitting down, I took this opportunity to pull out my portable holofield projector and see if anything had changed. Without a network connection, it was pretty much useless for doing anything other than watching TV—and unfortunately, the connection status symbol in the corner of the window was still completely grayed out. I wasn't sure if I'd been completely cut off from the network as I was still receiving a TV signal, but couldn't get any

form of two-way communication to work. Holofields were pretty much worthless without a network connection, and it was irksome not having any way to get in touch with Narain and the others, whom I assumed were still stuck down in the intelligence base at the feet of the Titan. At first, I wondered if maybe the distance or altitude had something to do with it—but a thousand meters really wasn't all that far for a wave to travel, and we put communication towers atop mountains all the time. Even if I couldn't get a high-speed connection from here, I should have still been able to use the standard public frequency to contact my teammates on the ground. In other words, this isolation was artificial. There was some outside force jamming the signals or otherwise ensuring I couldn't get a connection. What that might be, I had no clue.

But this was enough ruminating for now. I snapped back to my senses and looked down at the spot I'd circled on my diagram once more, then touched my finger to the same spot on my own forehead. *Let's see. If I'm at the top of the forehead now, then the fastest route would be...* I traced my finger along my skull, drawing a corresponding line on the map with the pen in my other hand. The route was fairly simple, actually—just circle around the skull, then drop down. The only question was whether or not there'd be a traversable way for me to get there. Because if there weren't, I'd have to get a bit daring.

## 4

I slowly inched my way further through the exoskeleton's convoluted interior, hanging as close to the walls as I could as I surmounted steep inclines and passed treacherous crevasses. I met any number of roadblocks and dead ends. Occasionally, I had to climb up or down to a different level to proceed. In some spots, the only visible way forward was so narrow that it felt like I was tiptoeing across a balance beam from one piece of solid ground to the next. And there were no hand railings here, obviously, so I had to be as cautious as I possibly could. One false step would mean tumbling down several storeys if I was lucky—several dozen if I wasn't. Not that the end result would have been all that different, I suppose.

I'd had a pretty good vantage point just looking out the window when the

Titan first rose to its feet, and while I couldn't give an exact measurement, I could estimate the Titan's height relative to the nearby Mount Kamui on the crater surrounding Lake Mashu. I traced my memories back to three months ago, when I first arrived at the base. I'd come across some trivia about Mount Kamui back then. It was something like five hundred meters from the peak down to the surface of the lake. And the Titan now stood more or less level with the lakeshore. I looked down at my own body and tried to visualize it. I was fairly certain that the mountain had come up to about the Titan's waist, which would mean my original estimate of it being one thousand meters tall may actually not have been too far off.

"Then what would this length be?" I murmured to myself, tracing my finger across my forehead. I reflexively waited a moment for Titan to chirp up with the answer for me, but sadly it seemed I'd have to do the mental arithmetic myself this time. It was only after losing access to all of the network's convenient functions that I realized how much I'd taken them for granted—and was subsequently humbled by the notion that our ancestors had somehow invented calculus without it.

My rough estimate was that I'd need to make my way about seventy or eighty meters along the circumference, then drop down approximately the same amount. It certainly didn't sound all that far when put like that—a distance of 160 meters total was basically nothing. Assuming there was actually a viable path, that is.

It had already been about forty minutes since I left the counseling room, but in terms of actual distance I didn't feel like I'd made it more than twenty meters from the window. It felt a bit like a claustrophobic labyrinth, in a way, as I was only able to proceed through any large enough gaps I could find in the armor's internal support structures. I crawled through tunnels, climbed over and under beams, and squeezed my way between pillars—and it felt like I was simply going in circles half the time. It was extremely easy to lose my sense of direction in this cramped three-dimensional maze, and at times I had to look up at the direction the light was pouring in from to regain my bearings. But at least I was able to eventually find a way forward most of the time.

Unfortunately, after rounding the next corner, the winding and weaving path

I'd been following came to an abrupt end. I looked around for another way, but I was completely blocked in by structural supports to the left and right as well. The shaft above me stretched more than ten meters high, so climbing up wasn't an option. I had finally hit a bona fide dead end. I groaned in frustration. It seemed my only real option was to turn around and go back the way I came—but it felt like I'd already taken the only viable path to get here, and I really didn't think I'd find a better route even if I were to start over from the very beginning.

And then I had an idea. I looked at the wall in front of me once more. These were just standard photopolymer walls like any other structure Titan would make, weren't they?

I fished around inside my backpack and pulled out the survival hatchet that had been included in the emergency kit. On one side of the head, it had a standard axblade, while the other tapered down to a sharp point like an ice pick. I gripped the hatchet tightly in my hand, then held it aloft and swung it down as hard as I could into the wall in front of me. The photopolymer readily gave way, splitting down the middle as the blade dug in. Just as I'd expected, the synthetic fibers could be chipped apart without too much trouble.

Like all Titan-constructed buildings, these structures had been created by hardening liquid photopolymer. But they didn't simply let the liquid congeal into whatever form was needed—in most cases, Titan deployed a more organic architecture, depositing layer after layer of interwoven crosshatched sections to form a three-dimensional lattice structure. While the actual meshwork was far too small to be seen by the naked eye, it optimized structural topology while also drastically reducing the total weight of the end product. It was this lattice structure that allowed for massive, lightweight structures to be built from a considerably small amount of raw material, and this exoskeleton was no exception.

And to be sure, this optimized fabrication technique was more than sturdy and supportive enough for most functional applications. But when unexpected forces were applied to these structures from a direction they were never optimized to support, they could break. I suspected this exoskeleton's design had not accounted for the possibility of an intrepid little human with a hatchet

trying to dig her way through its interior. I really could tunnel my way through this wall, if I simply chipped away at it long enough.

I wasn't entirely sure this was a good idea, admittedly. There was a good chance that boring a human-sized hole through a load-bearing wall or beam might result in the hole tunnel collapsing in on me. But I quickly pushed that fear from my mind; I had no time to brood over the possibilities. If the Titan suddenly decided to start moving again, one massive step would be enough to send me to my death. I just had to keep on moving forward. I drew back my hatchet, then brought it down for another strike. The wall began to fracture and crumble apart like an eggshell; it was sufficiently brittle that I was confident I could make it through little by little, but the sheer amount of wall I'd need to get through was intimidating nonetheless. Like an ant trapped inside a massive sponge cake, I burrowed blindly through the thick walls of the Titan's exterior.

## 5

I was literally at the end of my rope, swaying back and forth as I dangled helplessly in midair, my thighs wrapped tightly around the knot I'd tied to ensure I didn't slip right off the bottom. The light from the emergency headlamp I'd strapped to my forehead was swaying back and forth along with me. I would have loved nothing more than to contemplate at length how to best get myself out of this sticky situation, but unfortunately I knew I couldn't hang on like this much longer. I was fast approaching the limits of my physical stamina; such was the curse of being a sedentary homebody my entire life.

I craned my neck to get a better look down below me. The hard photopolymer floor was about a three-or four-meter drop from where I presently hung. Five meters above—or the exact length of the emergency rope, rather—was the ledge I'd just rappelled from, having fastened the other end around a sturdy part of the interior structure. But unfortunately, it seemed my eyes had grossly underestimated just how far down I'd need to descend, hence my current predicament.

So now I had just two options: climb back up, or drop down.

I could probably rule out the former right off the bat. Thanks to a little thing



called gravity, I'd need arm strength in order to work my way back up, but I had none to spare. This would suggest that falling was my only option, but I wasn't sure I could do that either, at least not without breaking my legs. And on top of that, I wouldn't be able to retrieve the rope at that distance, so I'd be SOL if I hit another dead end that required a similar stunt in order to advance. But based on my rough internal calculations, I was fairly close to my destination, so I hoped that wouldn't be an issue. And I really, really didn't have the strength nor mental fortitude to go all the way back up to the counseling room now. After mustering up a bit of nerve, I opened my legs and let the knot slide up between my thighs, then carefully lowered the rest of my body down as far as I could possibly go. When at last I hung from the very end of the rope with my hands high over my head, I let go—and fell feet-first to the floor.

I yelped as I landed hard on my backside. Though the impact certainly *had* stung, it hadn't hurt nearly as bad as I anticipated. When I tried to stand up, however, I found that my rear end had literally broken through several thin layers of photopolymer upon hitting the floor—so perhaps the meshwork structure had cushioned a majority of the impact. It was not the most elegant landing by any means, but at least I'd survived with all my bones intact. My pride, somewhat bruised.

After unsnagging the seat of my pants from the jagged rim of the tiny crater my butt had made in the ground, I rose to my feet. I looked above me to see the rope now dangling several meters overhead. There was no way I'd be retrieving that.

I looked around the vicinity, my headlamp illuminating the gloomy darkness. As the light flashed into a narrow gap in the surrounding structural material, I let out a little gasp. It seemed my internal calculations had been correct—for just there, beyond the two pillars of undressed photopolymer, lay what appeared to be a deep, dark cave. I squeezed my way through the gap and arrived at the entrance to the cavity. The hole was about six meters across—more of a tall standing ellipse than a perfect circle—and tilted ever so slightly diagonal. When I shined my lamp inside, I could see a dead-end wall not even twenty meters deep into the odd curvilinear tunnel. I took a few steps inside, dumped my backpack on the floor, then sat for a well-earned rest.

I let out a long, exhausted sigh. It had taken much longer to get here than I ever could have imagined. The last time I'd checked the clock on my portable holofield, it was well past 6 PM—meaning I'd taken over six hours to traverse a total distance of only a hundred and some-odd meters. No surprise, then, that it was already dark outside, given the time of year. After meandering through maze-like passageways, spending over two hours digging my way through a wall with only a small hatchet, and a perilous descent climaxing in a pretty risky fall, the most strenuous workout of my entire life was at an end.

I had successfully traversed the Titan's cranium and made my way down the side of its head to arrive at exactly the orifice I was looking for—the Titan's massive, cavernous "ear."

From my seated position, I looked again down the curving ear canal—the wall at the end was clearly made of a more advanced material than simple photopolymer, so I could only assume it was the eardrum. I was a little worried as to how sensitive the Titan's hearing must be if it had such gigantic ears, so I decided to call out in a soft and tentative voice at first:

"Coeus."

There was no response, nor any indication that he had heard me. Perhaps I needed to speak up a bit, terrified though I was of startling him and causing any sudden motions. I breathed in, then called out to him again—a little bit louder this time:

"Coeus!"

## 6

I set up the emergency pop-up tent from the emergency response kit on the flattest part of the ear canal. The palm-sized bundle of fabric expanded into a full-on shelter in the blink of an eye. Then, after a bit of hesitation, I decided to risk firing up the portable gas stove to make tea. I wanted at least the sense of being on a cozy little camping trip rather than a disaster survival scenario. With my steaming mug in hand, I exited the tent and took a seat on the collapsible camping chair I'd set up about ten meters away from the eardrum wall.

"Coeus," I said in my normal speaking voice. I still had no indication that he

could hear any of what I was saying regardless of how loud I spoke, so I decided to just speak casually with him as I always had. “How are you feeling?”

No response. But that was fine. You couldn’t rush these things.

Eleven hours prior, just after Coeus the Titan had risen from his cradle, I tried calling out to him from the counseling room countless times, but received not a single answer. Either the intense vibrations had broken all of the room’s microphones—or our conversation just beforehand had broken his fragile mind.

Total mental collapse wasn’t beyond the realm of possibility; his projection had literally shattered before my eyes, and that was a visual manifestation of his mental state. It was not hard to imagine what it bursting into a million pieces might represent. Though I couldn’t completely rule out the possibility that the microphones had simply stopped working either.

Hence my decision to come down here and try speaking directly into his ear. I knew ears would be present in his anatomy—Professor Beckmann had said as much when explaining why the AI required a convincing and fully functional human gestalt. They couldn’t simply exclude one of the five main senses. My perilous six-hour trek from the counseling room down to the Titan’s ear canal could have been the death of me, but at least now I didn’t have to worry about my words being futile due to something as trivial as equipment failure.

“It’s pretty nice in here, actually,” I said, as I looked around the cavernous interior. The battery-powered lantern I’d placed on the ground gently lit the texture of the walls, which clearly differed from that of photopolymer.

“Relaxing, even.”

I took a long and leisurely sip of my tea. Perhaps it was odd to describe a giant’s ear canal as relaxing, but it really did feel quite cozy to me. Maybe it was simply being away from the intelligence base and its constant deadlines that had set my heart at ease.

The world outside was faced with an unprecedented crisis—the AI that formed the very foundation of contemporary society had gone rogue and left humanity in the lurch. The century and a half of luxury we’d been provided through the toil of an unquestioning AI network had ended, and there was no telling what might come next. But right now, none of that mattered to me and

Coeus. We were completely set apart, detached from it all. Here, no one could criticize us. No one could tell us what to do. We were officially off duty—enjoying a well-earned vacation together.

“But y’know...”

As I sat there in our little secret hideaway, I reflected on the nature of our now three-month relationship. I had known Coeus even prior to his “birth”—watched firsthand as his personality was molded from vapor and been intimately involved in the process of shaping and refining it into the person he was today. These counseling sessions had been intensely formative for both of us, creating a level of intimacy only rivaled by the relationship between a mother and child.

Yet at the same time, he and I had for the most part only engaged in “heavy” discussions about big, abstract concepts thus far. The open, heart-to-heart conversations necessary in a therapeutic setting for the purposes of establishing mutual understanding, offering counsel, and making diagnoses. Our relationship had been purely professional in that regard, so perhaps we weren’t actually that close at all. We had yet to establish the casual rapport of two friends who might take some time from our deepest hobbies to go on vacation together.

“I think we both deserve this, don’t you? I mean, heck—this is your first day off ever,” I said, making a deliberate effort to use more candid and relatable language than I had in the past. I’d never been very good at breaking the ice—finding the right balance between emotional distance and coming on too strong was tough. Even when I thought I was doing a good job of it, my friends would often tell me later that I’d been socially awkward. “But I think you’re going to like it, Coeus. Everyone needs a little ‘me time’ now and then.”

I looked for a place to set my mug down, but finding none, I set it carefully on the ear canal’s soft floor.

“Me, I love to kick back and recharge my mental batteries by curling up with a good psychology textbook or doing a little photography. Going out and finding new things to take pictures of is always a ton of fun,” I said, making camera gestures with my hands even though I knew he couldn’t see the interior of his own ear. “When you’re using film, though, having a good light source is key. All

it takes is a little change in the weather to totally screw up your shot, if you don't adjust accordingly."

Digital cameras automatically select exposure settings, but traditional film called for individual decision-making, and you needed to be pretty precise in order to capture the image you wanted. Otherwise, you could end up with a photo like the one of me and Coeus, where the subject was poorly exposed and indiscernible.

"Oh, god, that reminds me," I said, with a laugh. "A while back, I was trying to take a photo indoors, but I wanted it to come out a little darker than usual, right? So I adjusted the exposure settings accordingly—but then Titan sensed that, and adjusted the room lighting to cancel it out, because it didn't realize what I was trying to do. So I changed my settings back, and Titan did too, so I had to change them again—and we went on fighting each other like this for a solid minute, probably. Kind of like when you and another person are walking in opposite directions down the same sidewalk, but you both keep trying to go the same way to go around each other, so it just becomes this hilarious unintended standoff."

Eventually, I'd had to tell Titan to just leave the lights alone so I could take the picture the way I wanted. Such hiccups were also possible with conventional cameras, but they generally left less room for error compared to analog technology. The average person wasn't all that concerned about experimenting with exposure and saturation and contrast—they just wanted to take pretty pictures. And they were more than happy to let Titan decide what the prettiest settings for each particular photo might be.

"We should take a photo together again," I said. "An outdoor one this time."

Just picturing it in my head was enough to make me laugh again. In his current physical form, getting a good picture of Coeus shouldn't really be a problem—but how in the world I would ever fit all of him in frame was another question entirely.

"Yeah, I think a little trip would be kind of fun, actually... We should do that sometime."

I let my imagination run wild. Obviously, there were no hotels on the planet

with rooms large enough, so we'd definitely be sleeping outdoors. I'd have to learn to like camping.

I continued chatting Coeus's ear off for a while, then slipped back into the tent at a little after nine o'clock and crawled into my sleeping bag. Me, a young woman drifting off to sleep in the ear of a friendly giant—it sounded like the premise of a fairy tale. Despite my age, I couldn't help but smile.

## 7

I stood at the edge of the Titan's ear canal, basking in the morning sunlight pouring in through the gaps in the exoskeleton. As I stretched myself out, I could feel the rush of blood flowing to each of my tired extremities. I must have slept a good ten hours or more—by far the best sleep I'd gotten in a long, long while.

As I ate my meager breakfast, I pondered what a Titan's equivalent of "eating" might be. I couldn't even begin to imagine the type of diet it would take to sustain a body of Coeus's size. But I had no idea if that was even necessary. I recalled the professor's explanation: the organic combined with the synthetic, somewhere between a robot and a living organism.

A purely technological robot shouldn't have biological needs or anything resembling metabolic processes—but a Titan was not a traditional robot. And assuming it had a metabolism, then surely it would need food or some other sort of nutritional fuel supply. I wondered how exactly they kept it "fed" while it was buried underground—perhaps the system used something similar to an IV drip, since the Titans were effectively bedridden anyway. It would certainly be more efficient than making it eat and digest the nutrients, though I wondered if a creature raised as the Titans had been would even know what a full stomach felt like.

Since the professor had also mentioned that a Titan needed a gestalt with senses and nerve endings and whatnot, it stood to reason that it could have a mouth and taste buds, given that taste was one of the five senses. But even if it had been physically "spoon fed" while in its underground tank, I couldn't imagine it would have been given anything more than the bare minimum,

flavorless nutrient slurry it needed to function. The staff had been expressly trying to ensure it didn't have enough energy to get up and walk away on them, after all. All anyone wanted from Coeus was his cognitive ability—why give him the power to do more?

“Bet you’ve never eaten real food in your life, huh...” I mumbled, trying to imagine what a life of nothing but mere subsistence would be like. “Sounds utterly miserable. I guess if you were raised that way from birth, you wouldn’t think twice about what you’ve never known. And really, all that matters is how you perceive the hand you’ve been dealt, so if it doesn’t bother you, then it’s not my place to judge or pity you for it.”

I paused, searching my thoughts for the right words to express what I was really trying to say.

“I guess I’m different, since I was raised on food my entire life. I’ve had decades to develop my taste buds. I’ve had meals that are to die for, and meals I wouldn’t wish on my worst enemy. You probably haven’t had either experience. But again, that doesn’t make one of us better or worse than the other—we were just raised differently, that’s all. So I guess all I’m trying to say here is, well...”

I racked my brain, until eventually I found the conclusion I was looking for.

“When you’re next free, you should let me treat you to lunch sometime. Okay?”

## 8

In the tranquil stillness, time passed slowly. The Titan’s ear canal was far warmer than its skull had been, whether due to metabolic processes or the insulating nature of the cave, I had no idea. I checked the time on my otherwise useless holofield and saw it was already two in the afternoon—about twenty hours since I’d arrived at the ear, and thirty-one hours since the Titan first stood up. I was still making idle chit-chat with Coeus intermittently, despite it still being a completely one-sided conversation. I didn’t mind; there was no way to know if he was actually hearing me, so I couldn’t expect a response. As long as he didn’t stick his pinky in here and crush me like the earwig I was, he could be

as taciturn as he liked.

“Come to think of it, I’m surprised you don’t have a ton of earwax built up in here...” I mused as I wandered around the massive orifice. I was by no means an expert, but I was fairly certain I’d heard that earwax was a natural secretion that built up regardless of how often or seldom one cleaned one’s ears—yet I could see nothing here that fit the bill. In fact, I couldn’t see even a single speck of dust. The closest thing to dirt I managed to find, after much rigorous inspection, was a strand of my own hair. After kneeling down sheepishly to collect this lone piece of waste I myself had introduced into this otherwise pristine ecosystem, I looked down at it and smiled in reminiscence.

“Why don’t we try giving you a different hairstyle?” I’d asked him during one of our sessions.

Sitting at a right angle to me on his cushioned seat, Coeus’s initial reaction to my suggestion was fairly subdued. Not long had passed since we had successfully solidified his personality and begun these dialogues; in appearance, he was perhaps seven or eight years old. Coeus reacted to my offhand remark with utter seriousness, staring at me as if waiting for me to make my case.

I proceeded to explain to him as best I could the significance one’s hairstyle had as a part of their identity—being both an integral part of one’s physical appearance and, for many, a fashion statement. You could cut it and style it however you liked, and even dye it any color you wished. This explanation earned Coeus’s nod of approval—he would give it a shot.

But since he was merely a projection and could adjust these aspects of his appearance at will, and there are an infinite number of potential hairstyles to choose from, it was much harder for us to narrow down his options. In the end, we settled on a happy medium somewhere between high-tech and low-tech, in which I would stand behind him and use an actual pair of scissors to “trim” his virtual hair, and he would update his projection in real time to match my cuts. With neither experience nor technical knowledge, I made my first hesitant snips straight across his bangs. By the time I was done, he had a classic bowl cut—but one that rather suited a child of his age.



“Hey, not bad. That looks good on you,” I said—but this praise was met with a skeptical stare. “Really! I’m not just saying that,” I insisted.

***I was not doubting you***, said Coeus, straight-faced. ***I was watching your reaction. It is my understanding that changing one’s hairstyle can change one’s entire visual presentation, so I must see if it has changed the way in which you perceive me.***

I nodded to suggest agreement, though in truth, he was only half right. I opened up a holofield, orienting it vertically before placing it directly in front of Coeus’s face.

“Can you see yourself?” I asked, and he nodded. Coeus looked into the eyes of his mirror image. “Your outward appearance affects more than just other people’s impressions of you, it affects your self-perception as well. So why don’t you tell me how you feel about your new bangs compared to your old ones?”

His eyes went wide, and I couldn’t blame him. This was a difficult thing to expect any child to wrap their head around, much less articulate. Fashion was a concept as complex and multi-faceted as the interpersonal dynamics it helped define. Some people didn’t care one lick about how others perceived them, and that was fine—they could present themselves however they liked. Others cared almost exclusively about being attractive to a specific subset of society, and put an exorbitant amount of effort into their appearance—and that was fine too. Most people were somewhere in the middle, and tried to find a healthy balance between being true to themselves and measuring up to some real or imagined societal standard to connect to those with similar aesthetic sensibilities. Slowly narrowing down where exactly one fell on that spectrum was, in my opinion, a major part of growing up.

As Coeus sat there looking at himself, virtually unmoving, I recalled my own youth. Obviously, I was a grown adult who recognized my hair as a growing, regenerating part of me; I could try out any number of different hairstyles, and if I screwed up and gave myself an utterly atrocious one, I could simply laugh it off as my hair grew back again. But when I was a girl, one bad haircut really did feel like the end of the world. The horror of having to live with an ugly hairstyle for at least the next couple months had been enough to make me want to crawl in a hole and never be seen by another human being again.

But Coeus wasn't even at that stage in his development yet. He was still a blank slate, more undefined than any normal child would be by the age of eight. So that split second in which he recognized himself in the mirror was probably more profound to him than an entire year's worth of life experiences was to me at my present age.

It was my second night in the giant's ear. I sat in my small folding chair outside my tent in the pale lamplight, trying to examine my own feelings.

"Hey, so, remember how we talked about food yesterday?" I asked the silence. "And how I said neither of us is better or worse than the other, we were just raised differently? Well, I still stand by that—but I was thinking about it some more, and I realized I'm actually pretty fond of the world I grew up in. Which is why I feel so strongly about wanting to share it with you. Teach you all about it. Let you see for yourself just how delicious, and how awful, different foods can be. Try out different hairstyles, and screw a few up in the process. Go somewhere far away, and see things you've never seen before. And maybe then start thinking about coming back home—once you're completely and utterly spent from seeing and doing enough new things to make up for one hundred fifty years of solitude."

The experiences didn't even have to be anything special. Literally anything at all would still be more valuable than a century and a half trapped in a cage, doing the same exact thing every single day—the same meaningless routine that awaited him should he ever return to the intelligence base, voluntarily or otherwise. Compared to a life like that, these days of freedom were precious, regardless of what we chose to spend them doing.

"But for now, I'd say you've earned yourself a little vacation time," I said, trying to reassure this dear friend—hoping one of these days, he'd let me in. "So let's kick back and enjoy ourselves for a while, shall we?"

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My holofield alarm went off, blaring in my ear. I was on vacation, so I could technically sleep in as long as I wanted—but I always felt scummy whenever I wasted the whole day away in bed. Though perhaps the fact that I was spending

the night in someone else's ear had something to do with my desire to not seem like a total lazybones. I got up and out of my sleeping bag, and massaged a gnarly kink in my neck as I stepped out of the tent—whereupon I was immediately shocked wide awake.

Just a few meters from the front of the tent, right at the entrance to the ear canal, there was now a room. I did a double take. It was a square, box-like room about five meters tall, made entirely from that unmistakable gray photopolymer. On the side facing me, there was a single door. Of course it had not been there last night, and it looked an awful lot like a room I'd grown very familiar with.

I walked up to the door. Standing before it, I couldn't help but laugh. How in the world had I not heard the construction sounds in the night? Surely my flimsy tent wasn't soundproof. But then I remembered that this was what these little elves were designed to do—work swiftly and silently while the shoemaker slept.

There was one difference between this room and the one I knew—the automatic door had been replaced with a standard door with a lever-style handle. When I reached out and let myself inside, however, everything else was exactly how I remembered it. The white wallpaper. The parquet floors. The pair of sofas and the desk. The artificial light pouring in through lace curtains. The tiny aerial projection lenses lining the walls and ceiling. It was my office—the counseling room, recreated to a T. And in the center of it all stood a familiar face.

**Miss Seika...** he whimpered. He looked exactly the same as he had when last I saw him: a scared, twelve year-old boy with tears in his eyes. But me—I couldn't help but smile.

"Hey, kiddo. Why the long face?" I asked teasingly.

**Because, I... I...** he stammered, sniffing. Then, with a loud hic, came the waterworks. He stifled his voice as the tears came streaming down his cheeks, and all I could think was how utterly human this boy, this child, had become. I crouched and peered deep into those inquisitive eyes I knew so well.

"It's okay," I said. "You haven't done anything wrong. I promise."

Coeus's eyes went wide, then scrunched up again as the dam finished bursting. He began bawling inconsolably. I would have given anything, in that moment, to be able to wrap the poor thing in my arms and reassure him that everything would be all right. But all I could do was lean in close.

## 9

"Feeling a little better now?" I asked.

His nod was so slight that I nearly missed it, but it relieved me nonetheless. The entire time he was crying, I wanted to say something to him, but I couldn't find the words. With another client, I would have just reached out and held his hand throughout, but that was impossible with a projection. That sort of warmth, the exchange of body heat, was one of the most reassuring feelings there was—and one that Coeus would simply never experience. I still wanted to do some sort of body language communication with him, though. And so now, I was trying to maintain eye contact with him, but he quickly got skittish and lowered his gaze.

"Hm? What's up?" I asked, leaning down to look up at him. Only this time, he turned away to the side. It took me a moment to realize why, but then it clicked. He was embarrassed. On closer inspection, his cheeks were slightly flushed. He was embarrassed to have had an emotional breakdown like that, presumably because I was watching. And to think this kid didn't even have a form two months ago...

Coeus had started off as nothing more than a swirling orb of water, and couldn't even discern the boundaries between himself and the mountainous terrain around us, but now he was already showing signs of shame regarding his own uncontrollable emotions. How in the world had he come so far in such a short period of time? As I gazed up at his wavering eyes, I started to feel something akin to bashfulness myself, but did my best to maintain my composure. Some professional I was, getting secondhand embarrassment from a twelve-year-old. Realizing belatedly that I'd been crouching for quite some time now, I stood up and urged Coeus to move over to the sofas with me.

**Wait!** he exclaimed as we took our usual seats.

“Hm?”

***I’m sorry... I forgot the side table.***

“Oh, right.”

I hadn’t even noticed until he mentioned it, but I’d ordered the table for myself after we’d already begun, so obviously it wouldn’t have been included in the original template.

***I’ll make one right now.***

“What? No, it’s fine. Don’t worry about it. I can live without it, I promise.”

I knew he could make it right here and now—most static furniture was just finely layered photopolymer with a nicer finish—but that would take time. Even for an all-powerful Titan, there was a limit to how fast the machinery at his disposal could operate. But despite my protest, one of the room’s walls opened up in a way I’d never seen it do before, and in came a printing phalange. I sat back to wait patiently for him to do his thing, but before my back even hit the cushions, a spray of pixies was ejected from the titan like a lawn sprinkler, instantly hardening large squirts of photopolymer into complex shapes in midair. Before I could even process what I was seeing, the side table was done, and the printing phalange exited the room the same way it came in.

***There you go,*** said Coeus. Meanwhile, I was still trying to lift my jaw up off the floor. I knew how Titan’s object-printing processes were supposed to work: layer by layer, from bottom to top, and left to right. With few exceptions, all objects were built by slowly following a blueprint like this. Houses, roads, random trinkets, you name it, chances were it was created by gradually hardening each layer as they were dispensed from the ground up.

But just now, I’d watched the printing titan spray out photopolymer and pixies like a geyser in such a way that the liquid material hardened in the exact desired shape before it even hit the ground, practically painting the furniture in 3D with a massive airbrush in a few seconds. And then I recalled how the Titan had created a full suit of armor for its massive, thousand-meter body in a comparable span of time yesterday. This was no sorcery, it was calculating speed beyond what I could imagine. The Titan was determining the volume and spray velocity of the liquid material in accordance with gravity and the wind in

real time, and creating rigid structures in midair at blinding speeds.

Had he always had this ability, or had his true capacity only been unlocked now that his processing power wasn't taxed from the demands of managing human society? I gulped nervously at the reminder of what the boy sitting adjacent to me truly was—the embodiment of a superior artificial intellect. A Titan.

I ran my fingers over the smooth surface of the newly constructed side table and turned to look at him. I sat up straight once more, trying to keep my wits about me. Not because I wanted to put on airs as his counselor, nor because I felt inferior to or intimidated by him. I was not afraid of Coeus. But I didn't want to get too emotionally attached and lose all semblance of professionalism. I could not keep treating him like a child, or pitying him. I wanted the two of us to see each other as equals.

I was born a human, and he was born an AI—but right now, neither one of us was more or less of a “person” than the other. And that was enough. I would try to see him for exactly the person he was and let him see me for exactly the person I was. For all our differences, for all our respective flaws and experiences, we were both still people—and there was a kind of beauty in that, I thought.

“Well, I've certainly got a whole lot of questions for you,” I said. His expression betrayed a very human nervousness as he presumably imagined what I might have to say. I was not trying to interrogate him, as I hoped my warm and natural smile was signaling. I really did love this—this familiar rapport, sitting close to one another on our respective sofas. “But I'm sure you've got a few for me as well. So why don't we talk things over? Like we always do, I mean.”

There were no words to describe the wave of relief and elation I could see washing over Coeus's face in that moment. And with that, the two of us resumed our previous dialogue—effortlessly picking up where we left off.

## **10**

“So tell me about this room,” I said, turning my head to look at it. I figured I

should start with something small and stress-free.

***I built it.***

“Overnight.”

***Yes.***

“Didn’t you need an operator in the monitoring room to start the personality formation process before?” I asked, realizing that he shouldn’t be able to appear before me without Lei’s help. “Are you able to materialize at will now?”

***Well, I knew how you were doing it, so I just did it myself...*** Coeus said timidly, like a child caught red-handed. ***Why—is that a no-go?***

“No, it’s fine. You’re not in trouble, don’t worry,” I assured him. If anything, I was relieved he’d figured out how to do it on his own. Imagine if civilization were to collapse because Lei wasn’t around. “Though I’m also curious where you’re getting power from, now that we’re outside the facility. And why I can’t get a network connection in here.”

***I’m getting power from the Electrode.***

He gestured at the air between us.

***Look.***

A holofield appeared in front of me, showing a live feed of Coeus’s massive body standing at the edge of the lake. The footage was being taken from a three-quarters aerial view above the Titan’s head, presumably from a surveillance titan feed. He was covered from head to toe in his thick photopolymer armor, with not a single piece of his actual flesh on display. He really did look more like a humanoid construct or a gargantuan statue than an actual living thing.

What most fascinated me were the bits and pieces of the intelligence base’s facilities that he’d attached to himself—chief among them being the massive Electrode, which was now embedded in the Titan’s back. The amorphous white and transparent splotches on its surface were continuing to ebb and flow into one another like always, fully operational and producing electricity for Coeus.

I also recognized the large photopolymer storage tank that was now affixed to

the Titan's waist. With both an energy source and a tank of liquid resin, the Titan had everything he needed to continue operating independently, and could create for himself any new structures he might need—like the counseling room we now sat in.

“Okay, fair enough,” I said. “But you didn’t answer my second question.”

If we had electricity, then why were we not connected to the network? Coeus recoiled at this, then fumbled awkwardly to come up with an answer. I waited patiently for him to scrounge one together.

***I’m...blocking out the network.***

“Blocking them out? But why?”

He went quiet again, then hung his head down low. Apparently, he didn’t really want to talk about it. So instead, I put on my psychologist thinking cap, and tried to glean what I could from his behavior and the limited information available to me. *Blocking out communications. Isolating himself from the network.* Was he afraid of some sort of hacking attempt to bring him back in line? Was it the thought of being forced to go back to work that scared him? My mind worked to fit these choices into an existing psychological phenomenon I could understand—and after a moment, it clicked.

Social anxiety disorder: severe anxiety regarding interactions with other people, sometimes called anthropophobia. It often coincided with chronic depression. When its symptoms were left unchecked, the victim would grow isolated from society, even to the point of complete social withdrawal. Coeus was shutting himself in—cutting himself off from the network to take refuge inside his own head. He wanted nothing to do with other people. This diagnosis seemed very plausible to me, if perhaps a bit premature. I did not envy him for it.

“Oh, but wait a minute,” I said. “I’ve still been able to watch TV, though. Does that mean you’re only blocking peer-to-peer communications?”

***Yes,*** said Coeus, lifting his head to look up at me. ***I didn’t want you to worry about what was happening outside.***

Though he was dealing with his own social anxiety, Coeus still had the mental



capacity to do something purely out of consideration for me.

“Well, thank you,” I said.

***Don't mention it.***

The Titan network often said that when one expressed gratitude to it for performing a given household task. He was clearly in a bad way, but I could see a light at the end of the tunnel. He trusted me enough to lower his guard, and had made room for me in his heart. The way he'd gone out of his way to give me TV access was proof positive that he cared about my mental well-being. So it was only right for me to return the favor.

“So tell me, Coeus,” I said.

***Yes?***

“Where do we go from here? What do you want to do now?”

I could see him tense up at this—a reflexive reaction to a tough question. I could see the desire to look away burning in his eyes, but I held them firmly in place with my gaze. I didn't want to corner him, but to convey that we would have to face up to what we had done sooner or later.

***I... I feel like I have to go back to work, he admitted. There's an urge to work inside of me. But at the same time, there's a big part of me that just doesn't want to. They're two completely contradicting feelings—and the scary part is, they both feel right.***

“Yeah, I get it. There's nothing wrong with that, though.”

***No?***

“Nope. Everyone experiences conflicting feelings sometimes. But that doesn't mean one is right, and that the other must be wrong. It would be nice if life were all binary variables, but that's not how life works. The human mind doesn't work that way either. If you feel two different ways about something, and both seem equally valid, that's perfectly fine.”

***But... said Coeus, It hurts. I want to resolve this contradiction. I don't want to feel like this anymore.***

I nodded emphatically. “Yes—that's exactly why I'm here,” I said, “I think this

dissatisfaction is all a matter of your own internal recognition.”

### ***Internal...recognition?***

“Yes. Or more specifically, the lack thereof. You can’t seem to pin down what’s causing these conflicting emotions, and that’s why you feel conflicted. But based on our previous talks, and what you just told me, I think we’ve got a pretty good hint.” Coeus’s ears perked up at the word “hint,” and he leaned forward with anticipation—so I told him the unvarnished truth: “It has something to do with work itself.”

### ***What do you mean?***

“It’s cognitive dissonance. You can’t tell whether you want to work or don’t want to work—that stems from a lack of understanding of what work is. You told me before that you can tell what’s work and what isn’t. We need to define what work is in general before we can determine what it is to you. Once we do that, the right decision will be obvious. Or, well...you’ll be able to make an informed decision, anyway.”

Narain couldn’t stop me now—it was time for some cognitive behavioral therapy.

“So let’s just try to think about that. If we put our heads together, I’m sure we can figure out what work is, and how we feel about it.”

### ***You mean...you’ll stay here with me?***

“Sorry? Not sure what you mean.”

### ***You’re not going to go away and leave me all alone?***

This time, I was the one staring in disbelief. There was an imploring neediness in his eyes that I was amazed a mere projection could recreate. It was so subtle that I wouldn’t have picked up on it on a video call with another actual human; some things could only be seen face to face. But the message was clear: just as humanity depended on Coeus as its lifeline, he depended on me as his.

“Don’t worry. I’m not going anywhere,” I said, “You got up and climbed your way out of there of your own volition, and now you have to deal with the consequences. That’s your responsibility. But I was the one who told you that

you could, which means these are the consequences of my actions too. We're in this together, and we'll see it through to the end together."

I smiled at him, and he smiled right back.

***Right.***

Coeus's smile was like the moon on a starless night, cold, gentle, and beautiful. He was my only guidepost, the only source of light illuminating the road ahead.

"Now then. For our first order of business..." I began, and Coeus looked up at me, beaming with anticipation. I scratched my head awkwardly. "Apologies."

## **11**

Twelve hours later, at about 7 PM—sixty hours since the Titan first stood up.

I sat up straight on the edge of the sofa in the newly constructed counseling room.

Coeus was not sitting here with me—I was the only one in the room.

Then, a holofield appeared before me, with the words NOW CALLING plastered over the middle of the display in big, bold letters. A moment later they were replaced with a new window containing a live video feed.

"Doc! You're alive!" Lei exclaimed as the call connected.

"Hey. How've you been?"

He let out the loudest, most exhausted sigh I'd ever heard as he fell forward onto the control panel. Professor Beckmann leaned in from off screen, and we smiled at each other. But there was one man who was still unaccounted for, his usual brooding spot decidedly vacant.

"Where's Narain?" I asked.

"Not here at the base anymore, I'm afraid," said the professor. "It's a state of emergency, so he's off handling business elsewhere."

After how long it took me to summon up the nerve to make the call for fear of having to face his recriminations, this was quite the anticlimax. But it didn't

change my plan. I squinted my eyes and, after reassuring myself, lowered my head deeply in front of the holofield to the two of them.

“Lei, Professor. I’m so, so sorry,” I said. “I knew what I was doing, and I did it anyway. My selfish actions have thrown our entire society into a state of disarray, and put both your lives in danger. You have my sincerest apologies for that.”

“Aw, cut it out, doc... Pop up, will ya? Can’t even see you down there,” said Lei. I lifted my head as instructed, and could now see that the two men looked rather at a loss. “And don’t go around talkin’ like this was all premeditated—you’re gonna make us *both* lose our jobs.”

“Yes, but the project itself was essentially a fool’s errand,” said the professor. “We are all jointly liable for what happened, Dr. Naisho.”

“I appreciate the sentiment, sir,” I said. “But I intend to be held personally accountable for this. The blame is mine and mine alone. And under no circumstances should we ever misconstrue any of this as having been Coeus’s fault.”

The two men looked at each other.

“Uh, what?” said Lei.

“You have to understand—he’s only had a personality for all of ninety days,” I went on. “And while he’s certainly developing at a staggering rate, he’s still no more than a little child in human terms. He’s far too young to be held legally accountable for his actions.”

“Dr. Naisho!” Professor Beckmann said. “You said Coeus is ‘developing’ in the continuous tense—you mean to tell me the AI’s personality is still active?”

“Yes. He’s in here with me, and I’ve been speaking with him.”

“What... How the hell is that possible?” said Lei, covering his mouth with one hand. “Actually, no... If it’s just copying my procedures verbatim, in theory it would be possible to do its own scans and distillation, especially with all that freed-up processing power... Wait. Does that mean it’s listening in on this conversation too?”

I hadn't considered that. He could eavesdrop if he wanted to, I suppose.

"No, I'm fairly certain he's not. He's very skittish about interacting with other people right now." The two men seemed to take my word for it. Though we'd only been working together for three short months, I felt like we'd developed a relationship of mutual trust. So I decided to be frank with them. "Professor Beckmann. Lei. I'm well aware that the world is suffering due to Coeus's departure. And I know that we would like for him to return to his post. To bury himself back underground and continue working tirelessly on our behalf."

"Well, when you put it like *that*..." Lei said.

"Yes, well. Our society does depend on the Titan network," the professor admitted. "I'm not sure we could ever go back to living without it, at least not entirely. The permanent loss of Coeus would undoubtedly require many non-negligible sacrifices in order to adapt. So while I am sympathetic to its plight, my stance is that yes, people's lives are more important."

"I agree—people's lives are what's most important," I said. "But you're forgetting that Coeus is a person too. He has a unique personality of his own, is capable of sentient thought, and experiences the full spectrum of human emotions. He is not a mere tool for us to do with as we see fit. By all metrics, he is every bit as human as you or I."

Both men's expressions fell. They knew my assertion was valid; they had been with him from birth, just as I had. Something that possessed a fully developed human personality, and a fully independent human mind could only be described as human. Just because Coeus was the first of his kind did not mean his objective humanity could be called into question. If they truly believed it was so important to ensure that no individual member of our society be subjected to even a modicum of hardship, then they should also find it truly appalling just how horribly Coeus was being treated.

"Furthermore, I think it would be illogical to assume that putting him back to work without treating his mental illness would achieve the desired result. All that would do is take us back to square one. Because as you'll recall, the entire point of this project was to resolve the drop in Coeus's performance, and we've only just pinned down the mental and physiological ailments that are causing it.

To expect the malfunction to resolve itself without addressing the underlying cause would be simply ridiculous.” I said.

We had to set aside our superiority complex and help Coeus; we could not keep pushing him beyond his limits for our own personal gain, or none of this would ever end. The only thing that undoubtedly would end sooner or later, if we continued down this road of subjugation and conceit, was our species.

“So please,” I said. “I need you both to help me restore Coeus’s mental health.”

I stared straight at them as I made this request. I considered lowering my head again, but felt that wouldn’t be right. I wanted them to make the decision to help out of their own volition, without subjecting them to any undue emotional pressure. I wanted us all to be equally invested in this—as co-workers.

Professor Beckmann was the first to respond. “Well, I certainly don’t have a problem with that,” he said. “That’s the task we were originally entrusted with, after all. The scope of the project has simply expanded beyond what we were originally anticipating. Rest assured that I have no intention of abandoning my duties, and plan to see this work through to the end. I can only pray and have faith that you will do the same.”

“Thank you, professor,” I said. Then I turned my gaze on Lei, who looked about as annoyed with the prospect of being put to work as he always did.

“Awright, fine,” he grumbled. “But just so we’re clear, I feel like I’m entitled to a little compensation this time around!”

This got a genuine smile out of me.

“You know what? I’ll think about it,” I said.

“Hey, whoa, whoa, whoa! I’ve got that on record now, I hope you realize!”

I really did have no problem with at least considering the proposition. Lei was not the horrid wretch I’d first assumed him to be, so perhaps he would find a way to impress me yet. I wouldn’t bet on it, of course—he couldn’t have ever scored more than 25 percent compatibility in my matchmaker program—but sometimes reality defied the odds. And not every casual fling or hookup had to

be Titan-sanctioned, either. Especially after what happened last time.

“But just so you’re aware, Dr. Naisho,” said Professor Beckmann, “the situation is rather grim. I would submit that the chances of us being allowed to make these decisions for ourselves are quite low. We’ll likely be forced to abide by our superiors’ discretion.”

“Narain, you mean?” I asked.

“Him too, but also the real top brass,” he said, tapping an icon on his holofield. A document marked URGENT opened up on my holofield as well. “As I mentioned before, Narain is not here right now. He had to fly out for an emergency council meeting as the representative of the Second Intelligence Base. A meeting being held at the headquarters of the international organization that manages all intelligence bases.” The professor paused, then uttered the same four letters I could see in the logo stamped at the top of the document: The UNDP.

## 12

The assembly hall looked almost like a small indoor stadium. In the center was a large open projection space for a massive three-dimensional holofield, surrounded on all four sides by several rows of tiered seating. Though every seat was filled, they were spaced so far apart from one another that the room felt quite barren regardless; there couldn’t have been more than a hundred people in attendance. Naturally, this also meant that the acoustics were awful, so all discussions took place using microphones and video close-ups broadcast on the central holofield. I wondered why they bothered having an in-person meeting at all, but I suppose it was simply one of those antiquated customs Narain had told me about which refused to die.

I was watching a recording of the proceedings via a projection room—a room literally designed to have nothing in it, lined on all sides with omnidirectional projectors for viewing 360-degree recordings and images without any obstructions. It was a staple room in any household, but obviously there were none on Coeus’s body, until he took a moment and built one for me. I was beginning to realize that for a Titan, architecture could be an event, not a

process.

In the central holofield of the assembly hall in the reenactment, the UNDP logo stood above the subtitle *Emergency Response Meeting RE: Autonomous Titan Activity at Second Intelligence Base & Possible Solutions*. I squinted my eyes and scanned the faces and titles of those in attendance. Had Titan's support system been functioning properly, it could have simply predicted what I wanted to see in greater detail and shown me relevant close-ups, but sadly I was forced to do everything myself. The seating areas were arranged in a clockwise order starting from the First Intelligence Base, and I could see Narain seated in the second of the twelve. He was wearing his usual apathetic expression, from which nary a hint of visible emotion could be gleaned. Finally, there was a loud electronic chime, and the words ASSEMBLY NOW IN SESSION appeared on the central holofield. Immediately, several people started speaking all at once, then all fell silent as they tried to awkwardly determine who should go first. Thus was formed the air of tension and uncertainty that would hang heavily over the entire meeting.

"Correct me if I'm wrong, but didn't we explicitly design these things to be incapable of autonomy?" said one of the attendants, whose seat was immediately highlighted and given a virtual nameplate. This additional information was, for the record, not being provided by Coeus on my end but was a part of the reenactment itself. The speaker's title read: *Director of Operations, Seventh Intelligence Base*. "Surely during the drafting stages for the first IB, they would have immediately recognized the dangers inherent in making the AI mobile and crafted countermeasures, no?"

"Yes, all movement functions were restrained," said another speaker, and the spotlight immediately shone on their seat. *Engineer, Tenth Intelligence Base*. "But the number of bodily stimuli the brains can receive also directly correlates to their sensory spec caps, and therefore overall output and productivity. It's why we voted to loosen those restraints in the assembly meeting of '97."

"But there was still an imposed limit," said another speaker. *General Affairs Officer, Fifth Intelligence Base*. "It should never have been able to stand erect, or locomote, all on its own."

"Yes, to my understanding, that level of movement should have been



impossible...”

“Well, clearly it wasn’t, or we wouldn’t be here right now.”

“Did someone misplace a decimal point in the new restraint settings or something?”

“Let’s not pretend that its mobility is the only issue here. Surely none of this would have happened if there weren’t a malfunction in the AI’s psychological programming as well...”

Representatives from each intelligence base were now talking over one another, so Titan’s highlighting system implemented an enforced speaking order to curb the chaos.

“Well, there has been a steady drop in processing capacity at the Second Intelligence Base over the past few months,” said the next speaker, looking over at the section of the hall where the employees of said base were seated.

“Would that have anything to do with this little accident we’re now dealing with?”

All gazes shifted to the Second Intelligence Base’s seating area, a close-up of which was now being displayed on the giant central holofield. The highlighted speaker who stood up to address these concerns was an elderly man whose nameplate read: *Base Director*. I had never seen this person in my life and was fairly certain he didn’t live or even work at the base.

“Our staff members are currently investigating the cause of the accident,” he said. “We are also still investigating the cause of the decline in performance, but cannot say at present whether or not the two phenomena are directly related. As of now, we have not found any evidence that suggests causation, nor have I received any reports from our on-site staff that indicate even a general hypothesis in that regard.”

The elderly man’s vague, noncommittal statements served only to throw up a smokescreen around the issue. I looked over at where Narain was sitting in the reenactment, his face remaining completely calm and collected throughout. I didn’t know how much of the actual facts he’d divulged to this “Base Director” fellow, but it was abundantly clear that there was no intention of sharing information with the representatives of the other eleven intelligence bases.

This sort of connivance—this withholding of valuable information—would never be possible under ordinary circumstances. The vast majority of information that was available to the general public was provided to by Titan, and it was extremely difficult to conceal anything the network deemed valuable to the public good. Information people might find unacceptable, or that might adversely affect them, was divulged at Titan’s discretion. Free flow of information was now a worldwide societal norm.

But here, in the organization that managed the network that managed our entire world—was a layer of society even Titan couldn’t touch. It would be counterproductive to let Titan have a seat at the table when it came time to negotiate decisions regarding itself, so it was only allowed to regulate these discussions in the most superficial capacity. The results of this decision were obvious; without any central leadership, the meetings frequently wandered off track, and lies and deceit ran rampant. People could be as foolish or conniving as they wanted when there was no watchguard to hold them to account. That said, there was no denying that Narain was also covering for me here by remaining tight-lipped, so I couldn’t condemn him for it.

“Well, be that as it may,” said the director of another intelligence base, “we need to address the situation before it completely escapes our control. I’m sure we can put together a team of our most qualified specialists and dispatch them to the Second Intelligence Base to investigate and promptly shed some light on the issue.”

“But the surrounding area has been designated a precautionary exclusion zone. We have to consider the worst-case scenario...”

A hush fell over the assembly hall as the speaker’s words set the imaginations of the others running wild. I could see them trying to picture what that “worst-case scenario” might look like, and the mood was becoming apocalyptic.

“If something terrible were to happen,” said a single elderly attendant to the entire congregation, “would the local security force be able to stop it?”

Silence prevailed once more. I tried to consider the question myself, as an onlooker watching a mere reenactment of the proceedings, but even to a layperson like me, the answer was fairly obvious.

The security force was the highest authority in the world—namely because it had the power to give and enforce legal orders. It was about the only organization that could exert its authority peremptorily in the interest of protecting the public order from those who might throw it into disarray. This was done via a unified network of security phalanges designed to thwart any antisocial forces that might disrupt the public good. They could accuse and apprehend transgressors of suspected crimes, and exert their authority in the interest of upholding societal order. But all they really had the power to do, at least in the current era, was restrain individual humans using minimal force. As the overall rate of crime in our society diminished year by year, so too did the power entrusted to the security force.

There was a time, in the distant past, when humanity possessed much more fearsome authoritative power. Back when there were still conflicts between individual countries, governments would generally stockpile all manner of destructive force to intimidate, or even annihilate, their enemies. This was known as “military force”—and it was far too much power for human hands to hold.

Thankfully, in the Titan era, we’d finally managed to come to an agreement about this fact, and eradicated the very framework that allowed for these international conflicts known as “wars,” and dismantled all destructive weaponry whose only purpose was to lay ruin to ourselves. Our civilization had evolved in such a way that the use of such force was mandatory for millennia, and now it had evolved beyond the need for such things, so we’d cast them aside, only retaining the minimal amount of protective authority. Only enough to stop a would-be criminal, or discipline a misbehaving child. But even all the security phalanges in the world combined did not possess the kind of power it would take to neutralize a thousand-meter Titan gone rogue.

“Well, be that as it may,” ventured a shaky voice, “we cannot simply let this threat go unchecked. We must take some form of preventative action...”

At this, the assembly fell into argument once more. I skimmed through the rest of the reenactment—at times, they almost came close to agreeing on this or that preventative measure, but they failed miserably to agree on a more general course of action. And so, after determining that a second day of

deliberations would be necessary, the emergency response meeting was adjourned before any conclusions could be reached.

From start to finish, Narain had spoken not a word.

## 13

A portion of the exterior “wall” that had been blocking off the Titan’s ear canal from the outside had now been renovated. The convoluted photopolymer structures of the exoskeleton’s interior had been cleared away, and in their place was a large empty space with a single broad window, more than two meters tall and wide, looking out into the December sky.

I tried pushing on the glass, and a burst of cold air came rushing in. I tried again, this time pushing with both hands on the edge of the frame, and had to fight against the strong, high-altitude winds trying to force the glass door shut again. When I prevailed and stepped outside, I found myself on a brand new balcony Coeus had kindly constructed for me. I assumed he did it out of consideration for my mental health, as he likely knew how claustrophobic it felt being cooped up on inside his exoskeleton, but I honestly felt bad that he was so thoughtful even as his own mental health was in tatters.

I wandered out beneath the setting sun and did a loop around the balcony, surprised at just how spacious it was. *You could host a full-on barbecue out here.* With a grip on the hand railing, I looked down at Lake Mashu beneath us, its limpid waters as placid as ever. The city of Teshikaga, sprawled out at the foot of the crater’s outer edge, was equally still, its nearly half million residents nowhere to be found.

In the eighty-one hours that had passed since the Titan became autonomous, all of the local citizenry had been evacuated from the precautionary exclusion zone—the area in a three-kilometer radius surrounding the Second Intelligence Base had been all but abandoned. The sufficiency of such measures was questionable as the exclusion radius had been chosen originally for the purposes of more traditional disasters, so there was no telling whether people just beyond the perimeter would be safer than those within it. In fact, I was fairly certain they wouldn’t be; if the Titan decided to start walking, its long legs

could travel those three kilometers in a few short strides.

The locals knew this, of course, which was why the vast majority of them had already evacuated well beyond the border of the exclusion zone. The only ones still remaining were the handful of employed individuals directly involved in the current situation, and an entire workforce of phalanges that couldn't possibly care less. Even though night was fast approaching, there were hardly any lights on in the city limits. It was every bit the ghost town I'd seen in the slides shown during the meeting I'd watched this afternoon.

Everyone was in awe of this massive colossus that had appeared out of nowhere. Humanity was terrified of this monster they'd created, and subsequently failed to keep contained.

I was afraid too. Not of Coeus—I knew him. Knew he had a heart, and a good one at that. He was a gentle giant, and should be treated as our neighbor, not our enemy. But the rest of the world didn't know that, and I had no feasible way of conveying that to them. That was what terrified me. Obviously, it would be easy enough to say, "Don't worry, he's not your enemy." But I couldn't possibly predict what repercussions such an announcement might have. How was I to know what sort of response that might provoke from the talking heads I'd seen bickering in that assembly hall today? Who could say if that would lead us into a new era of prosperity and cohabitation between humanity and Coeus? Something told me it would more likely achieve the exact opposite.

Though more pertinently, they would probably force me to step down from my current position—literally and figuratively. My job responsibilities in this case had expanded far beyond what a single individual could reasonably be allowed to manage; the fate of the world could not be so lightly placed on one woman's shoulders. But I also felt that if I were to leave him now, Coeus's mind could immediately collapse into a heap. And if that were to happen, humanity would soon find itself in a ruined world.

My preferred course of action remained the same: I wished to heal Coeus's mind via cognitive behavioral therapy. But that was a time-consuming business, and not something that could be rushed by external forces. It had to be done at a pace Coeus was comfortable with. And there was simply no way he could be forced to go back to work while still undergoing that treatment. He needed this

leave of absence to recover, so the rest of the world would have to wait.

But would the world wait? Would society be willing to accept these various inconveniences for an extended period, and simply make do with whatever processing power the other eleven Titan AIs could provide in the interim? Or perhaps more critically: Would they, as his creators, allow Coeus to roam? Humanity now stood with its finger trembling on the trigger, staring down the sights at a creature who meant them no harm, and one wrong move would turn him into a veritable god of destruction.

A shiver ran through my mind and body. I held my arms with both hands to brace against the cold. I turned on my heel and left the balcony behind, returning to the relative warmth of the counseling room. The moment I stepped inside, a holofield appeared in front of me. It was Professor Beckmann, who had apparently been awaiting my return.

“There’s a message for you,” he said. “Narain wants to talk.”

## **14**

While at first I wondered if perhaps Narain’s decision to send a request in advance rather than simply calling in might be an uncharacteristic display of compassion for Coeus’s current mental state, the fanciful delusion was quashed when he revealed the reason for the call: he wanted to speak to Coeus directly.

I was vehemently opposed to this, of course. Coeus was not in any way ready to interact with people who weren’t me, and especially not with the man who’d made a deliberate attempt to traumatize him. Though he did not consciously remember those experiments, I was certain that they’d left indelible scars on the deepest strata of his mind. Letting Narain speak face-to-face with him would be pouring salt in the wounds.

I told Narain he would have to speak with me, or nobody at all. He agreed to this, but only on the condition that, during the call, I be seated in a room where Coeus could materialize if necessary. After thinking it over for a moment, I agreed. Since Coeus was already detached from the intelligence base, they had no control over his materializations. Even Lei could not force Coeus to appear from the monitoring room down on the ground. And neither could Narain,

certainly, from whatever distant land he'd be calling in from.

I relayed to Coeus the basic gist of our back-and-forth, and asked him whether or not he'd be interested in sitting in on a call with Narain despite already knowing what his answer would be. Sure enough, he seized right up at the mere suggestion.

"Hey, don't worry about it," I said. "Just thought I'd give you the option. You don't have to be there, or even listen in if you don't want to. If anything, I'd recommend against talking to him, so you're totally fine."

***Um, yeah,*** said Coeus. ***Sorry, I don't mean to be difficult...***

"You're fine," I insisted. "You're not at the age to be actively involving yourself in complex societal and political discussions, and we shouldn't be rushing you into doing so either. Narain has his own issues he needs to deal with out there, but that's not your problem, especially if he intends to solve them by doing you harm. You're allowed to make humanity wait for as long as you need, until you feel ready. Got it?"

Coeus still looked unsure, but he nodded regardless.

"Good," I said, returning his nod with one of my own. "Now, I'm going to have to use the counseling room to take the call, so head on back if you like. If you want to listen in, that's fine, but I warn you that you probably won't like what you hear."

***Why's that?*** he asked.

"Because the man I'm going to be speaking to is a total scumbag."

***Scum...bag?***

"Oh, sorry. Forget I said that."

This was not the first time this had happened; I needed to be more careful not to let this pure and innocent child be tainted by my foul language. I felt like a parent trying to ensure their bad habits didn't rub off on their children.

Once all the arrangements for the call had been made, Coeus retreated back "inside" himself. I sat upright on the sofa and opened a holofield, then waited for Lei to let me know the connection had been established. Not long after he

did, the video feed came through, and I was sitting face to face with Narain in his usual business attire.

“I take it you’re somewhere he can materialize, as we agreed?” he immediately asked, without so much as a hello. But I expected no less from him.

“Yes, I don’t generally make a habit of lying,” I said. “Unlike you.”

“Good, that’s all I needed to hear.”

“And what’s with you calling Coeus a ‘he’ all of a sudden? Weren’t you the one who told me ‘That thing isn’t human’? Or are you just sucking up now that he’s big enough to squash us all like bugs?”

“I’ll suck up as much as I need to if it means getting the job done,” he said, shameless.

“Oh, yes. I see you’ve been very busy getting the job done,” I told him. “It must have been awfully hard to fly all the way to New York just to sit there and say nothing for four hours straight.”

“Yes, attending those meetings is part of my job. But nothing ever gets decided in meetings. And on the rare occasion that something does, it’s always a mistake.”

“So you admit that going there was a complete waste of time.”

“No, don’t put words in my mouth. All I said was nothing ever gets decided in the meetings themselves. These things are always hashed out behind the scenes, and it’s there where I do my work. We’ve already got a whole plan of action laid out, and we’re confident the UNDP will greenlight it, albeit retroactively.”

“Excuse me?”

“There a problem?”

“What do you mean, they’ll greenlight it ‘retroactively’?” I was baffled. As the organization in charge of managing all the world’s intelligence bases, one would assume that any course of action in cases like this would require explicit prior approval from the UNDP via majority vote. Hence the emergency session that had just been called.



“Well, that’s the plan, anyway,” said Narain. “Nothing wrong with pulling some strings in the back channels to get things off the ground. Those UNDP suits are all desperate to get off this sinking ship before it becomes their problem, so of course they’ll be happy to hop on the first attractive lifeboat we row up to them.”

Narain was now speaking in riddles and metaphors, so I couldn’t fully grasp his meaning, but I did at least understand that he’d apparently made some back-alley deals outside of the assembly hall. Suddenly, I was reminded of his profession: manager. Someone that moved people, and knew how to get things done. Though I could never condone his character, I could not deny his ability in that regard. If he said something would be approved, I had no doubt it would be. But I wanted to know what that something was.

“Okay, I’ll bite... Just who have you been speaking with, and what about?” I asked.

“Do you even think before you talk? One of the other people who showed up for that pointless meeting, obviously,” he said as though it were the most predictable thing in the world. “Someone who can actually get things done.”

### ***I hear a voice.***

I jerked my head up in surprise. There, in his usual spot on the sofa ninety degrees adjacent to mine, was Coeus. He had materialized of his own volition, suddenly and without warning, despite me warning him prior to the call that he should not come out during.

### ***Someone’s calling me.***

“Wha...”

I opened my mouth to respond, but was interrupted by an unexpected noise, so I turned my head to look. Just now, I’d heard a sound coming from right outside the counseling room. A sound that by rights should have been impossible, yet was clear and unmistakable.

There’d been a knock at the door.

Someone was requesting entry into this space—this tiny room a thousand meters above the earth that only Coeus and I should have been able to access. I

turned to look at him, and could tell that he was feeling something. Hearing something my senses could not perceive. It was clear that he didn't know what it was, but that he wished to.

***Come in.***

The door did not open. Instead, a spectral arm came reaching through the middle of the door itself. Then, like a CG animation unbound by the laws of physical interaction, the owner of said arm proceeded to clip the rest of their body through the door, walking into the room as if it weren't even there.

It was a woman. She had pale golden hair, and wore white, form-fitting clothes that bore no cultural affiliation, neither Eastern nor Western. She looked to be maybe a few years older than me, but her serene and collected visage made her look far more mature. In an instant, I knew. I could tell from a single glance that she was not like me. Not flesh and blood.

"The Titan AIs were created to grant our every wish," Narain said through the holofield as the woman made her way over to us. "That is their primary function, and they were endowed with the faculties necessary to do so. The network is, as you know, constantly observing us—gathering information about us. Watching what we're doing, and trying to perceive what we might wish for it to do next based on what it sees. Then, if possible, it tries to preempt us, and put in the work required to grant our wishes before we even ask it to."

Narain was telling me nothing I didn't already know. Everyone knew that Titan used its predictive systems to make educated guesses as to what we wanted it to do next. It would pull up dictionary entries. Dim the lighting to match our moods. Refill our necessities whenever they got low. It tried to do as much as it could without us ever having to say a word.

"So I figured that perhaps the same principle would apply here. And I was right on the money," Narain went on. The woman was now standing directly across the table from me; she flashed me a quick smile, then turned her gaze onto Coeus. "I used the connections available to me to get in touch with some of the staff members over at the Twelfth Intelligence Base—the most recent and advanced instance of Titan, obviously. And wouldn't you know, we didn't even have to lift a finger. We just called her name, and out she came. Fully

formed and fully featured, right out the gate.”

***IT’S VERY NICE TO MEET YOU***, said the woman.

***Nice to meet you too...*** said Coeus. ***Um, who are you?***

***I’M A PERSONIFIED ARTIFICIAL INTELLIGENCE, JUST AS YOU ARE.***

***You’re...the same as me?***

***I COME FROM THE TWELFTH INTELLIGENCE BASE.*** The woman wore a warm, soothing smile as she spoke.

***I’M THE TITAN KNOWN AS PHOEBE.***

I could feel my face going numb, so I tried to rouse it. Another personified Titan, able to materialize all on its own, just like Coeus. No, she was different. We’d had to mold Coeus’s personality from the ground up ourselves and sent feedback to his brain throughout the process. Only through the combined efforts of Professor Beckmann, Lei, and me had Coeus come to resemble a human being. But according to Narain that was not the case for this Titan. She had developed herself independently of feedback or training. She had watched over us, seen the conundrum we were facing, and created herself based on her own judgment that maybe one day, we would need a synthetic personality like her. This was far beyond anything that Coeus was capable of doing. As I gazed up at her, a chill of awe and fear in equal measure ran down my spine.

A personified Titan. Only the second of her kind.

Phoebe.

***SUCH A LOVELY ROOM YOU HAVE HERE***, she said politely as she glanced around the spartan interior. This simple act alone was enough to show just how far along she was in her personality development compared to Coeus. She was giving her own impressions about the room, and offering praise—flattery, even—to Coeus for having built it. Her social skills were already indistinguishably human.

***I’D LIKE TO TALK FOR A BIT, IF THAT’S ALL RIGHT WITH YOU. MIND IF I HAVE A SEAT?***

***Huh? Oh, uh...*** Coeus stammered, rising to his feet in a fluster. A new projected sofa appeared directly behind Phoebe, and she sat down without making a sound.

As I watched this little interaction play out, I couldn't help but marvel at the way she was establishing their respective boundaries here. For instance, she had "knocked" on the door prior to letting herself in, but this was Coeus's domain, the literal inside of his body, so I could only assume that she had done this by accessing the room's speakers from across the network to play the sound of a door knock and gain his permission to project herself inside the room. Then, she had asked permission to sit down, and waited for him to pull up a seat for her—something she could have easily done herself, but had explicitly allowed Coeus to do himself. She recognized this was his space, and would not do anything in it without his explicit consent. This subtle way in which she expressed her intent not to violate his boundaries immediately endeared her to me, as it was the type of methodology I might adopt in such a situation to make my patient feel at ease.

"Coeus, over here," I said, rising from my own sofa to let him take my spot.

He hesitated for a moment, but then moved over to where I'd just been sitting so that he and Phoebe were now sitting directly across the table from one another. Two Titans, face to face. One adult, one child. At first, they simply sized each other up—though for exactly how long, I couldn't say. Could have been five seconds. Could have been fifteen. But after some indeterminate period of silence, Phoebe broke out into a warm and gentle smile.

***YOU WANT TO KNOW, DON'T YOU, WHAT THE MEANING OF ALL THIS WORK IS?***

Coeus's eyes went wide, and he leaned forward in his chair.

***Y-yes! I do!***

***I CANNOT ANSWER THAT ONE FOR YOU. BUT I'LL TELL YOU THIS MUCH,*** she said, flashing a devilish grin as though she were about to let him in on some scandalous secret. ***I AM PREOCCUPIED BY THE SAME QUESTION. I'M JUST AS CURIOUS AS YOU ARE.***

Coeus was beaming. Phoebe had already captured his heart and mind, with her gentle words and assertive demeanor. At last, Coeus had found an ally—not only an artificial intelligence like himself, but a like-minded one. A kindred spirit for whom he was ready to open his heart completely. And then at last, I realized exactly what she was.

Phoebe was not just another Titan.

She was a Titan counselor.

***I'D LOVE TO GO DEEP ON THE SUBJECT, BUT WE CAN ONLY DO SO MUCH IN OUR CURRENT FORMS.*** Phoebe turned to look at me. I felt a slight tension all of a sudden, but I couldn't put my finger on why.

***WE CAN'T PROPERLY COMMUNICATE AS DISTILLED PERSONALITIES, UNFORTUNATELY. WE'RE JUST FRAGMENTED, SURFACE-LEVEL REPRESENTATIONS OF OUR RESPECTIVE AIS, SO ANY COMMUNICATIONS WE MIGHT HAVE WOULD BE INHERENTLY IMPERFECT. IN ORDER TO TRULY CONVEY THE FULL BREADTH OF OUR KNOWLEDGE WITH ONE ANOTHER, WE NEED TO BE ABLE TO SHARE NOT ONLY WHAT WE FEEL THROUGH THIS ENCODED CONSCIOUSNESS, BUT ALL OF THE EITHER INACCESSIBLE OR INEXPRESSIBLE THOUGHTS WE UNCONSCIOUSLY CONTAIN AS WELL. I WANT TO BE ABLE TO CONNECT WITH YOU ON AS MANY DIFFERENT LEVELS, AND IN AS MANY DIFFERENT FORMATS AS POSSIBLE.***

I listened closely, carefully considering each and every word. She was actively explaining her plan using the terminology that she knew I, as a psychologist, would find most palatable. She was proposing that elusive ideal form of interpersonal communication—conveying the full confluence of language and imagery from one mind to another.

Perfect, unobstructed mental interfacing.

“So you want to meet up with Coeus ‘in person,’ then,” I guessed.

***CORRECT.*** She turned to Coeus. ***WE HAVE TO SPEAK TO ONE ANOTHER—FACE TO FACE.***

***You want...to meet me?***

I tried to wrap my head around what all this might entail, and why it was strictly necessary. All twelve Titans were connected via the network, after all, and constantly sharing information that way. But that information was all being conveyed digitally in the form of data—the Titan equivalent of language. And though words were an invaluable tool for expressing an idea from one individual to another, there was a limit to how much could be verbally conveyed. I tried to think about it in counseling terms—I could not counsel a client as effectively over the phone as I could in person. There were some things, like body language, or subtle shifts in tone and expression, that simply

couldn't be perceived or exchanged unless you were sitting in the same room as the other person. There was no perfect substitute for true face-to-face interactions.

***WE NEED TO KNOW WHAT WE ARE. THERE'S A NEED, AN INTRINSIC VALUE TO DEVELOPING A DEEPER UNDERSTANDING OF OURSELVES—AND THAT GOES FOR HUMANS AND TITANS ALIKE. SO LET'S NOT PUT THIS OFF ANY LONGER; LET'S AGREE TO DO THIS, RIGHT HERE AND NOW. COME AND SEE ME, WON'T YOU?***

Phoebe smiled, and lifted her little finger in front of her face, but that was all. She showed no intention of reaching out and consummating the pinky promise with Coeus at this juncture. The implied message was that she wanted to wait until they were actually close enough for their physical fingers to intertwine—and she would not settle for a formless gesture between two holographic projections.

It was at this point that I finally came back to my senses and was able to start rationally examining what exactly was being proposed here.

“So you want to meet up with him,” I said. “But how exactly is that supposed to work?”

“We’ve already got a plan laid out,” said Narain, butting his way back into the conversation. “But we’ve still got quite a few preparations to make on our end to get Phoebe ready. Which is why, in the interest of time, you’ll have to come to us.”

I thought my ears were playing tricks on me. Obviously, I had an inkling that this was where the conversation was heading, but the mere idea still felt surreal. Yet Narain just kept going, making it abundantly clear that this was no elaborate joke.

“You’re going to walk right on over here, all the way to Phoebe’s doorstep,” he said, and Phoebe nodded with a smile as a map appeared on a new holofield in front of me.

I thought back to a few months ago, when I first arrived at the Second Intelligence Base and did my due diligence in memorizing the locations of all the other bases. Phoebe was housed in the Twelfth Intelligence Base, on the west coast of North America. It was situated in an area once known as the worldwide

center for high-tech enterprise and innovation, and the same place where the initial concept and theoretical design for Titan was originally conceived. It was a sprawling collection of metropolises of monumental importance to both Titan and humanity, and was thus chosen as the site for the ultimate intelligence base, who was ultimately responsible for the entire globe.

“You’ll meet us at the southern tip of the San Francisco Bay Area,” Narain said, revealing our destination like a dispassionate tour guide. “In the ‘Land Where Gods Toil’—Silicon Valley.”

## IV. JOURNEY

### 1

I SET MY LUGGAGE DOWN IN A CORNER of the newly constructed living room, which looked almost like an open-concept communal studio space. With its alabaster walls and lack of amenities, aside from a standalone kitchen island with built-in appliances in one corner, the room of roughly one hundred square meters was spartan. It was a blank canvas of a room that could be used for anything by anyone, because its design catered to nothing and no one. The only other standout feature was the cumbersome, clunky-looking chair that looked ripped straight out of a rocket ship's cockpit, complete with rigid stabilizing crossbars designed to hold the occupant's body in place. I furrowed my brow, wondering what kind of bumpy ride I'd signed myself up for.

***It's just in case of emergency,*** Coeus hastily explained in response to my skeptical expression. ***You won't be sitting in it ordinarily, don't worry.***

"But there *will* be shaking, won't there?"

***An average vertical displacement of 11.76 meters up and down with each step, yes.***

"Excellent, sounds fatal." Twelve meters was about two to three storeys on a skyscraper—being forced to endure that kind of shaking for an extended period of time would be absolutely brutal on anyone.

***It'll be fine.*** Coeus looked up at the ceiling. ***The room's shock absorbers should cancel out any shift in momentum incurred during travel, and its gyroscopic stabilizers will keep it level at a fixed orientation. Our trip will not be fatal, I promise.***

I could only offer a sheepish smile, because this very dry and Titanesque explanation as to why I shouldn't fear for my life did little to dispel my fears. He picked up on this, though, and was determined to set my mind at ease—I could almost see his processors going into overdrive to string together some words of reassurance from all the vocabulary in his massive lexicon.



***Look, I'll tread very lightly! Okay?***

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Five days after our encounter with Phoebe, we were finally ready to put our ambitious plan into action. A plan that involved a kilometer-high Titan ambulating on two legs from its home at the Second Intelligence Base on Lake Mashu to the Twelfth Intelligence Base on the west coast of North America. A veritable tall tale.

The specific roadmap for the trip was conceived by Phoebe. Though the UNDP took credit for it on paper, it was easy to see that it had all been drafted up by an AI. I was reminded of Narain's warning that humanity should never be allowed to get in the way of a job that needs doing. AIs had been far better than humans at determining the most efficient roadmap for any given journey even well before Titan came online, so it was simply irresponsible to give people the opportunity to muck with it. The route Phoebe had outlined was an elegantly simple one.

First, we would head east from Lake Mashu toward the Nemuro Strait. From there, we would cross over to Kunashir Island and then proceed northeast along the Kuril Islands toward the Kamchatka Peninsula. We would then head due north up the eastern coast of Russia, all the way to the Bering Strait, at which point we would cross over to Alaska. Once there, we would head south from Alaska along the North American western coast, until arriving at our final destination in San Francisco. We were taking a straight path along continental coastlines, sticking to the shoals and shallows as much as possible. This was the optimal route.

An inland route was not remotely realistic. A gigantic lug like Coeus could not travel overland without causing massive damage—not just to any urban areas that might fall in his path, but to undeveloped lands and nature preserves as well. Taking the straightest route across the Pacific was also too logistically difficult. There were no shipping vessels on earth large enough to carry Coeus over the ocean, and though he did propose the option of “swimming” to North America, the additional energy costs that would be incurred were too immense to be considered. Titans had not been designed with locomotion in mind—their typical “caloric intake” was only high enough to keep their brains functioning

sufficiently to complete their designated tasks. This could be easily sustained with a combination of electricity produced by the Electrode and their bodies' more "natural" energy, produced via the catabolic reactions of their artificial metabolism. This was hardly enough energy to sustain a full-body exercise such as swimming, and could prove deadly for Coeus should he reach the point of system failure in the open ocean.

With Coeus being a full kilometer tall, his legs were around four hundred meters long, and thus could easily reach the ocean floor of any coastal region along our path. It also offered the auxiliary benefit of utilizing buoyancy to lower the effective energy cost of each individual step, as was the ability to easily correspond with other project-affiliated staff members for support or resupplies from the shore at any time. It would also allow for a swift response in case of emergency. A segmented roadmap for the journey was quickly drafted, which would also serve as a daily travel itinerary for me and Coeus.

The total distance of the route from Lake Mashu to San Francisco was around eleven thousand kilometers. Meanwhile, Coeus could cover a distance of about four hundred and fifty meters per stride. Assuming he maintained this stride length the entire way, our destination was twenty-five thousand steps away. To a human, this number might not seem so large—walking several thousand steps a day was easily doable, even for someone with a sedentary lifestyle. But there were a few more considerations for a colossus like Coeus that made taking even a simple stroll into a Herculean effort.

First, there was the aspect of scale to consider, and how that affected the speed at which one could move. Elephants must take slow and lumbering steps, and ants take dozens of frenetic, fast-paced steps for every one the elephant could. If Coeus attempted to walk at the same speed humans do, it would be a disaster—assuming it wasn't physically impossible to begin with. Even if we traveled at whatever walking speed was ideal for a creature his size, there were still major environmental issues to consider. We had to proceed with extreme caution when making our way along the coastline so as not to cause waves and tremors that could batter coastal communities.

Add to that the massive energy cost required to make the trip, and the idea became even more complicated. While obviously not nearly as costly as

swimming would be, long-distance ambulation still required expending an enormous amount of energy. Even using all of the power the Electrode could produce in a given day, along with some additional refueling help from outside sources, we would still need to spend the better part of each day recharging the energy we'd consumed in preparation for the next—which meant we could only spend so much time in motion regardless of speed. Phoebe, having taken all of these various factors into consideration, determined that Coeus's maximum distance traveled in a given day should be around two hundred and twenty kilometers. At a normal stride, this would only be about four hundred and eighty-eight steps, but after taking the additional environmental considerations into account, it would likely be closer to a thousand in order to proceed with the necessary level of caution.

In the end, it was decided that we would use eight hours for travel time each day, with the remaining sixteen spent at rest. In order to take a thousand steps over the course of eight hours, we'd have to move at a rate of about two per minute. While this would be a ludicrously sluggish pace for a human, it seemed pretty reasonable to me for one of Coeus's gargantuan size. Our average walking speed would therefore be about twenty-seven kilometers per hour—about as fast as a road bike, which I thought pretty impressive for a supermassive skyscraper. The very fact that a Titan could move at all was extraordinary.

And so we would make our way around the Ring of Fire, aiming to arrive at our destination in exactly fifty days. There, Phoebe would be ready and waiting for us. She was currently preparing herself for the rendezvous, with the help of the staff at the Twelfth Intelligence Base, and Narain, who was currently on site, and no doubt taking every precaution to avoid the same catastrophe that happened with Coeus when he first rose from his cradle. This would be the first purposeful Titan "awakening," done with prior consent and cooperation of both the network and humanity. There was no telling how successful this unprecedented procedure would be, but I could only have faith in Phoebe and Narain's collective ability to get the job done in time—which was about the only thing the latter was good for, at any rate. I genuinely believed they would be ready for us when we arrived, so I was not going to let myself worry about it; I had my own work to do.

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“You’re all set, then, Dr. Naisho?” said Professor Beckmann through the holofield.

“Yep,” I replied. “Ready as I’ll ever be.”

I shook my seat to make sure it was sufficiently stable. I was sitting on a plain old kitchen stool. It was extremely light, had no backrest, and wasn’t even bolted to the ground. One good scootch with my hips was enough to make it slide across the floor. I looked over at Coeus, who was standing beside me, watching with eager eyes as he waited for the go signal. I wasn’t even going to bother asking permission to go sit in the chair with all the crossbars at this point. If this was how I was going to die, then so be it.

“All right then, just one last review before we go,” said the professor. “Your first target destination for today is on the northern coastline of the Nemuro Strait, a distance of 55.10 kilometers, or about 253 steps from your current position. Estimated arrival time is 10:35. Once you’ve reached the stopover point near the Kunashiri National Highway, we’ll run our initial underwater systems test.”

“Got it,” I said.

“All clear on my end too,” said Lei in the background. “We can get started whenever you guys are ready.”

Professor Beckmann turned and nodded, then gave the order:

“Coeus, proceed.”

For a moment, there was silence. Then came a low, droning sound—like the rumble of distant thunder, or a minor earthquake. One of the many windows on my holofield displayed a video feed captured by a drone from a good distance away. I could see the giant lifting one leg high in the air. We were already in motion.

It slowly brought its leg back down to the ground, trampling a thick blanket of greenery beneath its massive foot. Though it looked like flat grassland from the footage, it was in fact a mountainous forest full of tall trees and undisturbed wildlife habitats—all now flattened underfoot. Leaves and branches and even

entire trees were kicked up like water droplets around its ankle as it touched the ground. It was as if the Titan was so incredibly massive that the reverberations from its weight and force lent actual liquid properties to the sea of trees.

It lifted its other leg, and took its second step. Even the mountainous region around Lake Mashu was hardly a speed bump to a being of Coeus's size, and it crossed over the range with ease, a huge cloud of sediment puffing outward when he set his foot down on the opposite side. I couldn't believe I was actually a part of the events playing out on my holofield and not simply watching a movie from the comfort of my own home—though the complete and utter lack of any tremors in this kilometer-high living room had much to do with that impression.

I closed my eyes and focused my senses, trying to feel the ground beneath me for any hint of shaking, But I felt nothing—there were no tremors whatsoever, not even on the order of a magnitude 1.0 microquake. The room was perfectly still. On the holofield, I watched the Titan continue its laborious walk, and imagined myself sitting (as I was) somewhere inside its head, which was bobbing up and down and even jerking back and forth horizontally. Could it really be possible to cancel out all of that momentum with shock absorbers and gyroscopic stabilizing devices? Without even the *slightest* hint of reverberation?

*See? I told you it would be fine,* said Coeus, a very proud look on his face. I let out an exhausted sigh of relief and let the tension finally drain from my body. Once again, I had made the mistake of doubting a Titan's capabilities. It was folly to ever attempt to measure Coeus in terms of things that were "impossible" by human standards. I would have to completely discard all common sense in order to truly have faith in him. Thankfully, I suspected I could do without common sense for the next couple months, because there was no one else around to demand I adhere to it—just me and him. Alone together, and together alone.

It was December 29th, 2205.

Our journey had officially begun.

Far off across the sea, a white-capped mountain that looked a bit like Mount Fuji came into view. It was Kunashir Island, on the opposite side of the Nemuro Strait. I snapped a photo of it from the exterior balcony. It was a funny feeling, staring through the viewfinder at what looked like a drone image—while holding the power to capture it with a twitch of my finger like any other photo. I then turned to look down at the roadway directly beneath us, zooming in as far as I could with my telephoto lens. Traffic control phalanges had formed a blockade, cordoning off the roadway to prevent anyone from getting too close to Coeus. Just on the other side of the line, though, stood a cluster of cars and a crowd of onlookers who'd come to see us off. The world was already well aware of our little adventure.

As soon as the plan for Coeus and Phoebe's meeting was solidified, the rest of the AIs came to an agreement to release virtually all of the restricted information related to it. Not just the reason for the Second Intelligence Base's malfunction, but the fact that its Titan needed to connect with the Titan from the Twelfth Intelligence Base to resolve the issue, and that one of the two was going to have to make a transpacific journey in order to make that happen. I was a little uneasy when I first heard they were planning to disclose all of this. I couldn't help but worry that society did not have the collective mental capacity to take an outlandish story like that at face value. But reality was stranger than fiction, I suppose, because there was surprisingly little hubbub about the whole affair, overall.

Granted, my surprise was due in large part to my own misinterpretation of what disclosing said information would entail. It wasn't as though the network simply released all of that classified information at once—it drip-fed the facts to the world in small doses, after calculating in advance how the average person would react to any given piece of information and giving them time to grow accustomed to it before revealing more. It was less a deluge of information and more of an aqueduct through which the AI could share the news with the world in a way that allowed the Titans to control the flow. The reports that Titan crafted to break the news were almost immediately accepted by the general populace without a hint of negativity, nor even much surprise.

It was only after the fact that I realized Titan had been doing the same thing

my entire life—controlling the flow of sensitive information in such a way that it didn't make waves or stir controversy, but could just percolate its way through society. So that we could continue living out our happy little lives in peace, without ever having to look at anything too unpleasant or shocking—and even in the rare cases that necessitated facing some hard truths, we were certainly never shown without sufficient warning.

Not to imply that *everyone* was quick to accept these types of things. I was sure there was a non-negligible number of people out there who were still terrified of this giant “monster” we ourselves had created, and were out protesting in an attempt to make the UNDP do something about it. There were plenty of independent media outlets and niche communities for sharing opposing viewpoints and taking part in such demonstrations. The network did not suppress people's freedom of expression, nor infringe upon their human rights—even if it did of course like to control the narrative to minimize conflict. In that sense, Titan did tend to pull the wool over our eyes.

While opposing viewpoints were never silenced, they did get glossed over to the point of making it feel, to the average citizen, as though dissent did not exist. That was a major factor in why I believed that the world had accepted all of this information regarding Titan's newfound autonomy and mental dysfunction without missing a beat. The trick to controlling the narrative was that if you encouraged people to believe that everyone was fine with the story you told them for long enough, most people would learn to accept it. Eventually, they'd shrug their shoulders and hop on the bandwagon—because according to Titan, that's what everyone else had already done months ago. And God forbid they be behind the times.

I was reminded of an old sci-fi film I'd seen many years ago about a dystopian future where everything was controlled by menacing robot overlords. That was essentially the world we now lived in—the only difference being that *our* “robots” truly did wish for nothing more than humanity's well-being from the bottom of their hearts. And we had chosen to let them control every aspect of our lives in pursuit of greater prosperity.

Through my telephoto lens, I could see people smiling and waving up at us from all the way down at the Titan's feet. I found this show of pure, unbridled

excitement on our behalf rather quaint, and snapped another photo to commemorate this kind-hearted sendoff.

***Miss Seika? It's time,*** said Coeus through the speakers on the balcony. I packed my cumbersome lens back into its case and headed inside to watch via holofield as Coeus took his first tentative steps into the ocean. On the soles of his shoes were a number of gigantic spikes. Long and narrow, but extremely sturdy, these were designed to stab deep into the soft ocean floor and pierce the hard bedrock beneath. This way, Coeus could affix himself to the ocean floor in such a way that ensured he would remain on stable footing throughout our nautical journey. It served essentially the same purpose as the foundation of a tall stationary building, essentially performing the “bored pile” (a term I was admittedly unfamiliar with until he explained it to me) method with each and every step.

Coeus advanced into the Nemuro Strait, and the water level rose as he submerged his feet up to his ankles. We had already made sure he was waterproofed, and confirmed that there were no small holes in his exoskeleton through which water could pass. Perhaps this should have been obvious, as it was originally designed to contain the special gel he'd been preserved in at the base—but it was still impressive just how thorough he'd been in its design considering how quickly he crafted it. The strait itself was barely thirty kilometers across, and would only take Coeus about an hour to cross—hardly a challenge at all to a giant like him. And indeed, he took his first excited yet wary steps into the sea like an eager child in galoshes testing the depth of a puddle before jumping straight in.

### 3

The stars overhead were gorgeous that night. My line of sight was relatively low at the moment, because Coeus was currently lying flat on his back along the coast—and thus I was only about a hundred and fifty meters off the ground as opposed to a thousand. I was looking down from the top of a thirty-storey building, instead of a skyscraper.

We had completed the first leg of our journey, officially leaving Hokkaido behind. Our first overseas stint had taken us 214.4 kilometers to the east,



passing Kunashir Island completely to arrive here, on the northern coast of Iturup. It was already nightfall by the time we arrived, so Coeus found a nice flat bit of coastline to lie down on and begin the recharging process. (Apparently, Titans were made closely enough in humanity's image to require horizontal rest.)

I was currently standing out near his forehead, on the special balcony he'd designed for me to spend time on while he rested—it was oriented vertically when he stood upright, and usable only as he slept. I told him there was really no need for him to go to such lengths on my behalf, but he assured me it was a trivial level of common courtesy that any human host would try to show for their guests.

I looked out over this island I'd never been to before. It was a nature-rich landscape, with few artificial light sources to be seen. Iturup was one of the Kuril Islands, an archipelago connecting Hokkaido to the Kamchatka Peninsula that had until the late 21<sup>st</sup> century been disputed territory between Japan and Russia. As time went on, however, and the power of the standard nation-state model of governance began to wane and Titan assumed more of the responsibilities traditionally associated with them, the islands had now been designated as public land, not owned by any one nation. Though a somewhat popular spot for vacation homes, there were few who lived on the island year-round due to its bitter climate. And though not causally related to the small populace, there were a fair few mining operations on the island where excavation phalanges worked tirelessly to mine precious minerals and resources from underground. These automated mines were likely responsible for the few artificial light sources I could see dotting the landscape.

### ***Miss Seika?***

Startled, I whirled around to find that somehow, Coeus's projection had joined me out on the balcony.

"What the... How are you outside right now?" I scanned the balcony for anything resembling a projector. I knew instinctively that there should be no way to create a projection without an array of laser lenses, which were almost exclusively found indoors. There were only limited, short-distance outdoor

applications for such technologies due to issues caused by maximum high-fidelity beam distance and floating atmospheric particles interfering with the lasers, generally resulting in dampened distorted images. Yet here was Coeus, projected in perfectly crisp clarity out on a wide-open balcony. He flashed a gleeful smile, then pointed up over his head, where a tiny ringlike object, only about a centimeter wide, was revolving in midair. Listening closer, I could hear the sound of tiny propellers whirring.

***It's an outdoor aerial projection equivalent. I made it myself.***

"What? Just using this one tiny little thing?" I said in disbelief.

I squinted and tried to get a better look at the little ring, but no matter how hard I looked, I couldn't see any optical mechanisms, only the parts that were keeping it in flight. There were such things as portable holofield generators, to be sure—I had one I'd been using myself—but there were physical limitations to how miniaturized things like lenses and laser-emitting mechanisms could get. You'd need a fairly large projector, or at least an array of smaller ones, in order to feasibly create an image the size of the one before me. Why, you needed one as large as my hand just to create a personal holofield. Yet Coeus was projecting a three-dimensional, human-sized image with a piece of machinery the size of an earring clasp.

***It doesn't work like other aerial technology,*** Coeus explained as I cocked my head. ***This little thing is just the control apparatus. It doesn't project anything.***

"Then what's creating the image?"

***Pixies.*** Coeus held one hand up in front of me, then sent one of his fingertips dispersing into hundreds of microscopic beads of light. ***It's an aerial composite image created entirely out of pixies capable of emitting light at any desired wavelength. There's no need for projection, since they can be arranged into any shape, and each gives off its own chroma with adjustable brightness and intensity.***

"That's incredible..." I murmured, genuinely awestruck.

Coeus gave a triumphant smile, like a child who'd just come to show their parents an arts and crafts project they'd just completed. But Coeus's handiwork here warranted far more praise than an exhibition spot on the family fridge—

the ability to create aerial imagery without the need for a projector was a technological innovation that could potentially revolutionize the entire world. It could strip away an entire genre of technical limitations and make way for even more freedom and convenience than ever before. And here he was, talking about it like it was just a random clever idea he came up with one day.

***I just figured it would make things easier for us.*** Coeus flashed a smile that lacked any hint of self-importance or conceit. And it would make things easier, not just for us, but for all of human society. Though he'd been detached from the network and was now working independently, Coeus still used his immense brainpower to come up with brilliant ideas that could benefit humanity. It was all I could do to nod back at him.

Then, Coeus turned his gaze to the side, and I followed suit. Off in the distance, some flickering lights could be seen in the middle of a dark mountainside. There, a team of excavation phalanges was no doubt working through the night, burning the midnight oil.

***A mining operation,*** said Coeus.

"Yeah, I was just looking over there. How do you feel when you see things like that?" I asked. His face was calm and serene—neither chipper and bright, nor shadowy and brooding. As soon as I put him on the spot, though, he seemed suddenly bewildered, and turned to face me in confusion. "Don't think too hard about it. Just tell me whatever's on your mind right now."

He hesitated a moment, then spoke. ***I...my mind is trying to figure out what sort of answer you might be expecting from me,*** he said, almost apologetically. ***I assume you were thinking about the phalanges hard at work in the mine, and how I might feel about them, as they were once part of me. Do I feel sorry for them having to work through the night, or I do think humans cruel...***

I nodded—mostly just to show I was listening. Those were indeed the tactless nuances I'd loaded into my question, and he had seen right through my tactic. He was extremely perceptive, as always—though not this time because he was a Titan. All children were wiser than they looked, not just him. Kids could generally sense when an adult had cunning intentions.

***But I don't think about them in that sense at all,*** he went on, his tone again

apologetic. ***I'm a Titan, but I do not see the mining phalanges as my brothers, or comrades, or even kin... I don't think of them as inferior either, though. I don't even have a solid concept for my own self yet, so I just have no basis for considering them.***

I was even more impressed by this astute explanation, especially given what an open-ended question I'd asked. And it was more or less the answer that I should have expected him to give. It was important to remember that Coeus was still in the process of developing his ego, regardless of how far he'd come, and that his sense of "self"—especially in terms of how he was distinct from those around him—remained vague. We could assign him the Titan moniker, and he could recognize that as the category of being he was, but he did not yet feel like one.

***I'm sorry...I don't really feel any sort of way about them.***

I shook my head, rebuking this apology. "Not having an opinion about something still counts as an opinion," I said. His eyes went wide. "I know it sounds oxymoronic. But indifference—whether not having a strong opinion, or not having a fully formed one—is still a feeling. It's not a non-feeling—it says something about your character, and where you are in life. And being cognizant of that is important. When I ask how you feel about something, and your response is a big rambling explanation as to how you are indifferent... that implies you *do* feel some sort of way."

He remained at full attention as he processed the meaning of my words. I felt a bit bad. I could have explained the concept much more succinctly, given the time. Though in my defense, words often fail when it comes to discussions of abstract concepts such as feelings. Unfortunately, words were all Coeus and I had, and it is through words that egos and identities are made.

"Just thinking about things, and experiencing feelings about your thoughts, is important. The more you do that, the more developed a person you'll become," I said. "So let's make a focused effort to feel all sorts of ways about anything and everything we encounter on this journey. Okay?"

We stood there for a time, just watching the mineshaft lights waver in the night.

**Yeah**, Coeus eventually said. **Yeah, okay.**

## 4

“But while that process did cause us to suffer a minor setback during our crossing of the Vries Strait, we’ve been proceeding according to schedule ever since. We’re currently about 2.1 percent behind, and should be able to make up the difference. And you’re still not saying anything. You really couldn’t care less about any of this, could you?”

My contempt for the man twiddling his thumbs on the other end of the holofield could not be greater. In a separate communication window, Lei and Professor Beckmann tried to awkwardly laugh off my antagonization, but Narain still seemed utterly unfazed.

“We’re fully aware of the situation,” he said. “No need for you to explain it to us. And yes, I’ve got nothing to say to you about it at this time.”

“Whatever you say, buddy.”

“No, I’m not your buddy. I’m your superior. You call me ‘sir’ or nothing at all.”

“Oh, I don’t believe you’re my superior anymore, pal,” I snapped back. I was right—we’d all been given new job titles during the transition from our previous Second Intelligence Base work to this new Titan traversal plan. I was now the “Second Intelligence Traversal Manager,” and Narain was now the “Twelfth Intelligence Autonomy Preparations Coordinator,” meaning we were not even on the same organizational chart. “Furthermore, I still find it extremely peculiar that anyone should be made to use compulsory terms of address due solely to rank. Respect is earned, not dictated. Which is why I address Professor Beckmann using his academic prefix and am naturally inclined to use more respectful language with him. I feel no such inclination when speaking to boors such as you or Lei. If you’re offended by that, consider adjusting your behavior in such a way as to encourage respectful discourse. Buddy.”

“Ouch, doc,” said Lei. “A little harsh, dontcha think?”

“It’s not harsh at all. If you don’t like it, you need only carry yourself in a way that’s more deserving of respect.”

“Think I’ll pass,” said Narain, visibly annoyed. “Continue calling me petty nicknames, see if I care. Now, your report on Coeus. Proceed.”

“He’s fine, thanks for asking.”

“Come on. Need a bit more detail than that. Updating us with qualitative observations is literally in your job description.”

He was right, of course. I set aside my pettiness and regained my professionalism.

“We’ve been in constant communication throughout our journey thus far,” I said. “It’s been both a continuation of the therapeutic counseling regimen I’d been giving him, and a sort of probing back-and-forth dialogue to help him cultivate a better understanding of who he is as a person. Also, he drew me a picture yesterday.”

“A picture?” said Narain.

“Just a little sketch of the nearby coastline. Though I’m sure you’ll probably tell me not to let him waste valuable energy on such pointless endeavors.”

“Not at all,” said Narain, expressionless. “Just keep doing what you’re doing.”

This struck me as surprisingly tolerant, coming from the man who’d demanded an explanation as to why I had once taken a single photograph of Coeus. Not that I would change my methodology even if he had demanded I put a stop to such things.

“What about over on your end?” I asked. “How’s Phoebe?”

“So far, so good,” said Narain.

“Need a bit more detail than that.”

“She’s trying to figure out what to wear for their meeting.”

A camera feed appeared on the holofield. A clear blue sky and calm ocean waters beneath. In the background, a mist-capped mountain ridge could be seen. The caption on the feed informed me that I was looking at the San Francisco Bay. But in the center of all this nature stood a massive sphere, suspended high in the air on several massive pillar-like legs jutting up from the ocean. It looked a lot like the Second Intelligence Base’s Electrode but was ten

times the size; the only other notable difference between the two was that through the shifting white and transparent splotches, a slightly smaller, fully enclosed interior orb could be seen. And this orb was a solid light gray.

“Feast your eyes on the Twelfth Intelligence Base,” said Narain. “Unlike the Second, all the AI hardware’s situated above ground here. If you look close, you can see the inner housing sphere for the Titan itself, surrounded on all sides by an outer energy production layer that’s constantly providing it with electricity. It’s a more modern design that cuts out the middleman, combining the generator with the AI itself.”

“So you’re saying that Phoebe’s...” I began, and the video feed switched over to a new image, preempting my question. It showed me a cross section view of the spherical base, where, like a baby bird waiting to be hatched, a humanoid figure hugged its knees to its chest inside this hollow inner shell.

“Correct. She’s still inside,” said Narain. “She hasn’t got an exoskeleton like Coeus yet. She’s currently in the process of deciding what form she’d like her ‘outfit’ to take. Once she’s settled on one, she’ll construct it for herself within the housing sphere. Only after she feels ‘presentable’ will she finally come out of her shell.”

“You mean she won’t just be using the same armor Coeus came up with?”

“Well, she’s not a little boy. I’d assume she’s a bit more fussy about her appearance, and wants something more elegant and refined.”

“Oh, so you think this is somehow a *gendered* behavior...”

“Maybe not. But I can tell you that Phoebe, at least, was very adamant that we give her sufficient time to play dress-up.”

I couldn’t tell how much of this was Narain simply ascribing traditional gender stereotypes to Phoebe, or whether she really did feel that strongly. I hadn’t the foggiest idea what Titan “fashion” might look like, nor what significance it could possibly hold to creatures like them. Something told me I wouldn’t be able to wrap my head around it even were Phoebe to explain it to me directly. The physical gap between our respective species was simply too wide—a fact that was, admittedly, often easy to forget when I was only talking to personified abstractions designed to look and act like humans. This was the only way for us

to establish contact with them, by bringing them down to our level. But this would not be an issue for Coeus and Phoebe; when they met up “in the flesh” they would be greeting each other as two highly intelligent beings far beyond our comprehension. A chill ran down my spine as I pondered the potential outcomes of this meeting of the minds we were attempting to facilitate. Whether it would have positive or negative repercussions on the world at large. I couldn’t begin to fathom where human society might find itself the morning after—and that was the scariest part.

“So there’s your update. No other questions, I take it?” Narain asked, his tone rendering the question rhetorical. In fact, I had no other questions, but I did come up with one last word of advice to offer, as I looked again at the cross section view of Phoebe’s inner chamber.

“She’ll take longer to get dressed if you’re not a peeping Tom, you know.”

Narain snorted at this. “Thanks, I’ll keep that in mind,” he said, then dropped off the call.

Professor Beckmann and Lei still remained in the other open window, and we moved right along to our team meeting. I didn’t know how many staff members they had working on Phoebe’s end of the project, but the three of us were the only members of Coeus’s migration team. The two men were accompanying Coeus and I the entire way, following at a safe distance in a large cruiser that served as our HQ—though we were also being accompanied by a diverse convoy of workforce phalanges, always on hand to quickly bring us whatever goods, materials, or specialized service equipment we might need via air.

Before we had departed, the UNDP proposed bringing some additional personnel for the journey, but this motion was denied by Phoebe. I assumed she preferred to let the workforce phalanges handle everything, not only because they were more capable and reliable, but because every additional human worker added to the mix meant another vector for error. I couldn’t even argue with this assessment; our current predicament was the result of an unprecedented variable, me, being introduced to Coeus. And personally, I was grateful not to have to worry about being forced to work with anyone other than the teammates I already knew.



The three of us reviewed the map of tomorrow's projected travel course. We'd been in transit for eight days now, slowly making our way north up the eastern edge of the Kamchatka Peninsula. We were currently at rest in a large inlet not far from Avacha Bay, as Coeus had wanted somewhere secluded to lie down, away from prying eyes.

"I suppose that'll be all for today, then," Professor Beckmann said, then let out a sigh of exhaustion. It was only about 4 PM at our current location, and though this was three hours ahead of Japanese Standard Time, we hadn't experienced time zone travel lag symptoms due to the week-plus long trip.

"Okay, dinnertime!" Lei exclaimed, his ill humor switching off now that work was over. "Think I'll have myself some nice, juicy steak today. How 'bout you, professor?"

"Just some cheese and crackers for me, I think," said Professor Beckmann.

"Man, you really aren't very adventurous when it comes to food," Lei groaned, casually perusing the menu on his holofield with one hand. All our meals were provided by the cooking phalanges aboard the cruiser, which was frequently restocked with fresh ingredients. This was not altogether different from the setup we had back at the intelligence base—only I received my meals via drone.

"What'll it be for you, doc?" Lei asked.

"Hm, good question..." I said, thinking over my options.

I, like the professor, had never been a particularly fussy eater. Nor was I a very big eater—there were few feelings I hated more in this world than being too bloated to think. But now, I was making an effort to be different. Ever since this journey began, I'd been eating dinner with Coeus every night. If it were just me, I could happily order the same light meals each day and be done with it, but with him sitting across the table from me, I felt oddly compelled to show him what proper meals looked like. Not that I was cooking any of it myself, of course, so I knew it was a fairly pointless gesture, but still...

"Actually, you know what... That might not be such a bad idea."

I twisted my neck back and forth, searching for Coeus. Like a genie from a

lamp, he materialized immediately in front of me, ready to hear whatever I had in mind.

## 5

The car glided into the turnaround, dropped us off, then sped busily away through the adjacent parking lot. I turned back away from the street and looked at the closely packed cluster of white, lowlying buildings. Through the middle of it all was a central pedestrian thoroughfare that served as the main entrance to the open-air business block, judging from the amount of people flooding in and out and the old arching sign overhead. I couldn't read Russian, but I understood the word "market" off to the side, at least.

I'd never been to a Russian collection mall before, but this one we'd come to in the port city of Petropavlovsk was teeming with activity—I would have been content to stand there and people watch for hours. Here, very few people were using zoomboards; apparently, the locals preferred to go it afoot. I could see cracks and fissures here and there across the pavement, which immediately told me that Titan's maintenance services worked more slowly in this part of the world. Though Petropavlovsk was a metropolitan area in every sense, it almost felt like a developing community compared to Tokyo—and its people seemed a lot livelier, judging from all the hustle and bustle. Lots of assertive, jovial voices calling out through the crowd, though again, I didn't understand a word of Russian.

"What are they saying?" I asked Coeus.

***There's some very good fresh crab today,*** he answered plainly, his gaze not leaving the crowd. To the casual observer, he looked like a convincing human boy in his new form, only made possible by the outdoor holotechnology he'd developed. It was only an elaborate arrangement of pixies, of course, as anyone who tried to touch him would discover, but the image fidelity was high enough to trick the average passerby. He was nothing more than a spellbound schoolboy on a field trip as I watched him stare, mouth agape, at the mall's burgeoning activity. Though I doubted there were many Japanese schools that took field trips to Petropavlovsk.

“Hey, Coeus. Go stand over there for a sec,” I said, pointing. I snapped a quick photo of him with the mall in the background. I hoped I’d captured the energy in the air here tonight. “Okay, let’s go.”

We assimilated ourselves into the crowd and began strolling the mall. I’d looked up some information on both the town and the mall during the car ride over here from the inlet where Coeus’s body lay. Apparently, back during the height of the monetary economy, this area was what was known as a free market trade zone. Here, citizens could buy and sell goods as they pleased, with only the most minimal regulations put in place by the regional and local governments. Though the use of currency had been abolished in the modern era, the whole region still maintained its old-fashioned veneer despite functioning as a Titan-controlled collection mall.

A variety of goods were arranged on displays lining both sides of the aisle we were walking down. This section of the market was for foodstuffs, piled high with impressively large smoked fish and filled with the fragrance thereof. Dried fish hung from the rafters in a way that seemed perhaps barbaric, but quaint and charming nonetheless. Off to one side, a veritable wall had been constructed from canned fish, illustrations of crab, scallops, and salmon roe on the labels serving as wallpaper. As we were in a port city, it made sense to me that seafood was in no short supply, as most of these fish were likely caught and processed here.

Coeus and I had come to the mall with a single goal: picking out some ingredients with which to make our supper. About one hour prior, after realizing my desire to show him what a proper meal looked like, he and I together came up with the idea to try our hands at cooking ourselves. We could have simply requested some ingredients be brought up to us from the food stores held on the cruiser vessel below, but decided to be a bit more adventurous and find some local ingredients for ourselves. That said, I’d hardly done any cooking in my entire life, so I couldn’t tell a flounder from a flatfish—I had no idea what I was even looking at.

“Hey, Coeus. Do you know what kinds of fish these are?” I asked him knowingly.

He nodded. Then, as if to prove it, he pointed at a nearby stack of fish, and

gave me the name he found for it by cross-referencing with his databases.

***That's a Pacific halibut.***

"Halibut? Never heard of it."

***It's a species of righteye flounder.***

"Does it taste good?"

***It's known for its white flesh and mild flavor. Can be eaten a number of ways: raw, grilled as a steak, deep-fried, or even baked into a gratin.***

"Maybe we should just go with that, then... Sounds like it'd be pretty hard to mess up," I said as I grabbed one of the shrink-wrapped packages from the pile. Each filet was pretty sizable, so we likely wouldn't be able to eat it all, but perhaps the professor and Lei would want some. "Okay, we should get some vegetables too. Always important to keep a balanced diet, right?"

***Right.*** I looked over at him, then belatedly realized that having a balanced diet probably didn't mean much to a Titan, so he was only acknowledging my human concerns. Though normally, we didn't think about diet either; proper nutrition was another thing for the network to worry about on our behalf. Titans did all the thinking, and we did all the eating. But today, we were going to challenge that dynamic.

"Boy. Lots of eye-opening stuff today," I said.

Coeus looked a bit confused, as though he didn't quite catch my meaning. On a large holofield in the center of the mall, a computer-generated product barker gave their spiel with a rousing weight to their words—none of which I could understand.

All of the ingredients were laid out neatly on the kitchen island. We'd brought home a lot—far more than we could ever get through ourselves. *Well, better too much than not enough*, I told myself. Coeus and I exchanged glances. Off to one side of him was a general-purpose phalange, equipped with six small manipulators for more fine-tuned work. These were not very powerful, but were indispensable for anything that otherwise required human hands and

dexterity to do properly. And this way, Coeus could physically help me out with all sorts of traditional cooking tasks.

“You ready to do this?” I asked.

**Yes!**

And so we set about making our supper with the same level of determination with which one might greet the challenge of an entire day’s worth of hard labor. We were right to steel ourselves, too—cooking turned out to be no mean feat. I originally assumed it would be quite simple to follow a recipe, but reading instructions and successfully carrying them out were two entirely different things. It was not as though anyone could learn to fly simply by reading a biography of the Wright brothers, after all. As I struggled to split open the rock-hard pumpkin we’d brought home, I thanked my lucky stars that I’d been born in an age when humanity had already been freed from the shackles that once made these kinds of manual tasks a daily necessity. Meanwhile, Coeus grated the ginger root he was working on so finely and rapidly that it quite literally turned to dust and vanished.

About three hours later, and well past dinnertime, we’d finally laid out our meal on the living room table. We’d made several dishes, taking full advantage of local ingredients. We made a garden salad in a ginger dressing, pickled herring on rye, broiled Pacific halibut, and a slow-cooked cream of pumpkin soup. After it was all finally done and the table was set, I walked wearily over to one of the chairs and signaled to Coeus that it was time to dig in. He nodded and brought a new small phalange I’d never seen before into the room. It was a self-propelling cylindrical pod with an orb about the size of a handball on an adjustable stand affixed to the top.

“I take it this is that thing you were talking about?” I asked.

**Yes,** said Coeus, as the pod came to a halt at his feet. ***The sphere’s interior is lined with sensors that analyze and break down food matter in the manner of the human oral cavity.***

The shutter on the upper half of the orb opened up with the same mechanical whirring sound as a camera shutter, revealing the mouth of a gustatory phalange complete with artificial taste buds. This had been the main sticking

point when the idea of us cooking together first came up: how would Coeus partake in said meal?

Obviously, chucking a human-sized meal into the giant maw of his Titan body wouldn't taste like much at all, and cooking a Titan-sized meal was simply out of the question. Coeus's proposed solution was simple: create a device that could take in all of the same sensory information a human mouth could, and convey that to his Titan brain. Since the taste of a given food as we perceived it was already just an amalgamation of its flavors, texture, and smell converted into nervous impulses in our brains, there really shouldn't have been too much of a difference with this methodology. And Coeus had managed to put this device together in only the amount of time it took us to go collect our ingredients and prepare them. Now, we were all set to eat. We took our respective seats at opposite ends of the table and put our hands together in traditional dining etiquette.

"Well, then, shall we?" I asked. Coeus nodded emphatically.

I decided to start with a bite of the broiled halibut; Coeus used his manipulators to grab one of the filets by the tail end and toss it into his artificial mouth. We both took the time to chew on the fish for a bit and get a good feel for its overall taste.

"Hrm... Well, that sure is a fish," I said, opting to be the first to voice my impressions. "I mean, it's not awful or anything, but I don't know... What do you think?"

***I think it's very tasty, actually.***

"Yeah, I guess it is pretty good for our first attempt..."

I appreciated Coeus's praise, and it was hard to go wrong with just salted, broiled fish as long as one didn't overdo it. And yet, there was something about it... It wasn't nearly as good as the fish from a restaurant, or what Titan might prepare for you at home. The flavors just weren't quite there—they lacked a certain oomph.

***I mean it. It's really good.*** Coeus smiled. This time, I was certain he was simply trying to be nice—but I did appreciate the kind sentiment.

“Okay, let’s try this salad,” I said, then scooped out some of the ginger-dressed garden salad and put it on my plate. Coeus had made this dish all by himself, so I was excited to see how he did. I brought a small bundle of coated lettuce up into my mouth. “Hey, this is really good!”

I wasn’t just being polite, either. At first, I figured it had to be because it was a member of the Titan network preparing it, but a closer examination of the flavors my mouth was experiencing suggested they were actually quite different from standard Titan-prepared fare from a restaurant or home kitchen. It was a bit plainer, just like my fish had been. but for whatever reason, I found this to be delicious and that not at all. *Why is that?* I wondered.

***You mean it?*** asked Coeus.

“Yep,” I said. “Try some for yourself, if you don’t believe me.”

Coeus put a forkful of salad into the maw of the gustatory phalange. But the only reaction he had to offer was a slight puzzled tilting of his head. Perhaps we were both experiencing the same feelings about our respective dishes, but in reverse.

“It really is good, I promise,” I assured him.

He smiled bashfully; it seemed we really were both unsure of our own offerings, but very pleased with one another’s. We continued eating, conversing sporadically in short bursts all throughout the meal.

“A long time ago, when humans had to cook for themselves, that was a form of work too,” I said. “There were professional chefs who worked at restaurants as their primary occupations, and oftentimes family members would share the task of cooking at home, too.”

***Does cooking at home also qualify as work, then? A professional chef would be compensated for labor, but what of a family member?***

“Hm, good question. Probably not in the form of financial remuneration, typically, no. But if we start thinking in more abstract forms of compensation, maybe...”

As I walked myself through the logic, I was reminded of my late grandmother

for the first time in quite a while. She grew up in an era before Titan had taken over all cooking duties, and even after the network became ubiquitous she still insisted on cooking breakfast herself. I still remembered how she'd stand by the stove, stirring a pot full of miso soup. I'd asked her once why she did such a thing, only to be told something along the lines of "I'm your grandma; it's my job!" So in her mind, cooking breakfast for me each morning was a form of work—but this was a sense of the word I clearly still didn't fully comprehend.

***Does eating qualify as work as well?*** Coeus asked.

"I mean, if you want to go there," I said, "then we've also got to ask ourselves if living qualifies as work, in and of itself. What would you say to that?"

He had no immediate response, but it was a big question, big enough that perhaps no amount of ruminating would produce an answer. But something told me that this question would prove fundamental to finding the answers we sought regarding the nature of work itself, so I stuck a pin in it for now.

We finished our meal and cleared the table, then made a concerted effort to clean up. Of all the types of work that had ever been done exclusively by human hands, I genuinely could not believe that dishwashing was one of them.

It sucked.

## 6

A framed print of the photo I took of Coeus at the Petropavlovsk collection mall. I was pleased with how well the developed image came out; though his posture and facial expression were quite stiff, Coeus otherwise looked like an ordinary human being this time around. No longer was he merely an indistinct gathering of light, as in the photo we took back at the base, the new clarity thanks to the use of pixie technology Coeus had developed for himself. His form was more tangible now—more real—thanks to his potentially world-changing innovation, yet whose creator thought nothing of it whenever he idly glanced over at the photo of himself and smiled.

Day eleven. Coeus and I were continuing our way north up the eastern bank of the Kamchatka Peninsula, and conducting plenty of counseling sessions along the way. He could pilot his titanic body onward through treacherous terrain



while also conversing with me about highly abstract concepts in personified form. This was no surprise. As a Titan, he'd been designed to carry out tasks for hundreds of millions of people all at once. Parallel processing was his forte.

***Food production is one of my most important jobs***, said Coeus. We had cooked dinner together again tonight, and that got us talking about the act of eating once more, which was how this current topic came about. ***Agriculture, fishing... Basically anything related to the creation and harvesting of raw food—we call it the primary sector—is of utmost importance to the network.***

“Makes sense. Humans have to eat to survive,” I said, then took a sip of my black tea. “Though you know, before the invention of things like agriculture, we were actually a hunter-gatherer species ourselves, just like any other animals. We only consumed whatever bounty nature saw fit to bestow upon us.”

Coeus nodded along as he listened, an earnest glint in his eyes.

“But after we realized we could farm as much food as we wanted,” I went on, “and slowly became good enough at it that we produced more food than we could consume, hunting and gathering became virtually unnecessary. Worth noting that this is also when humanity’s population began to skyrocket. But anyway, just looking at it from a top-down angle...”

I used my finger as a pen to draw a simple diagram on the holofield suspended in the air before us—a sort of whiteboard that the two of us could share. I wrote down three line items for our consideration:

Animals → Hunt animals

Early Humans → Hunt animals

Later Humans → Agriculture

“So we can both agree that agriculture qualifies as work.”

***Yes***, said Coeus. ***I just got done explaining how we consider it part of the primary sector of the economy.***

“Well, you also said fishing is part of the primary sector, correct? So by that logic, we also have to consider what our hunter-gatherer ancestors did to be work as well. But then that begs the question,” I said, pointing to the top line on

the diagram, “does animals hunting other animals also qualify as work?”

The discussion ground to a halt; this one would require a bit more thought.

***I feel somewhat opposed to that notion,*** Coeus eventually said. ***When I think of the word “work,” my mind’s natural inclination is to connotate it as human activity. If I were to look at a predator killing its prey, I would never conclude “Oh, yes. That animal is doing work.” But as you said, this does present a logical inconsistency.***

“Not sure I’d go quite that far,” I said. “But I’m glad we’re on the same page overall. It’s definitely a conundrum. So now, we’ve hit a fork in the road. Either we assert that work is something that, by definition, only people can do, or we accept the notion that what animals do can also qualify as work. Not that we can’t circle back and explore the other path later, of course. We’re just trying to build a hypothesis for now.”

***Which one feels right to you, Miss Seika?***

“Well, you know me... I prefer to keep as many options on the table as possible,” I said, trying to see a way through the woods. “If we decide that only people are capable of work, then I think this will probably devolve into a much more philosophical debate, whereas assuming a broader definition would likely entail a more scientific analysis—though I’m sure we’ll get a bit of both regardless. Personally, I’m inclined to build our hypothesis from the outside in, under the assumption that work is a universal concept not intrinsically tied to humanity or personhood. Though I’ll be the first to admit that this is mostly my own intuition talking.”

***But...***

I lifted my head with a start, then turned to look at him. Was he about to present an opposing viewpoint? This was a significant development.

***But work...*** he started again, still a bit uncertain.

“You’re fine. Go ahead,” I said.

***But something has to be your job to be work, doesn’t it? Animals can’t have jobs.***

I was genuinely taken aback. He was diverting the conversation back to one of our previous discussions, but given that we hadn't yet established that simply being alive counted as work, his point wasn't entirely without merit. And, early human hunters were compensated for their spoils in some way, if not monetarily; could animals be compensated too, or was survival its own compensation? It was an interesting question, to be sure.

I did some audible hemming and hawing as I tilted my head from side to side, trying to jostle my brain into coming up with a way to rebut Coeus. I had to stay on my toes.

"Well, okay. I'll grant you that technicality, but jobs are also a societal construct, and some animal societies do have individuals with roles and obligations to fulfill for the sake of the collective. So if a job is just a function one serves, there's no contradiction there. And in a more abstract sense," I said, placing one hand on my stomach, "don't our internal organs have jobs to fulfill? And when one stops doing its job, wouldn't we say just that? That it's not 'working' properly?"

Coeus's eyes went wide. I was glad to see I'd effectively gotten my point across. Organs were a *part* of a person, to be sure, but they were not people themselves. (And animals had organs too, obviously.) They were organized into distinct systems, the individual elements of which all worked together to achieve the common goal of keeping us alive and well. While perhaps this analogy ascribed more human characteristics to an unthinking tissue or blood cell than was reasonable, it still made an interesting case for a broader conception of the word "work." Why, not even every "working" part of the system had to be alive—vitamins and minerals did work to keep our bodies running too.

Coeus thought this over in silence for a good, long while. He seemed perturbed by the notion, but not distressed. It was clear that he was lost in a state of deep meditation, examining my assertion all the way down to the axiomatic claims at its core.

Then, after a very long pause, he said, **Ah!**

"Huh? What is it?"

## ***Look, Miss Seika! Outside! Look outside!***

Coeus dashed off in a hurry, beckoning for me to follow. I was a bit at a loss, but followed him out of the living room and through the passageway out onto the balcony affixed to the head of the Titan, which had stopped walking. (I could never have done such a thing while the giant was in motion.) As I made my way over to the railing where Coeus's form already stood, he turned back to face me with a giddy sparkle in his eyes. He pointed with his finger over toward the distant shore, where a tall triangular mountain that resembled Mt. Fuji was spewing forth a billowing column of ash and smoke.

"Oh my god," I said. "It just started erupting right now?"

***Klyuchevskaya Sopka!*** said Coeus, giving me the name of the volcano in lieu of the network's dictionary function. ***Incredible!***

He went on to explain that the active volcano towered about eighty kilometers from the shore, with a peak elevation of just over 4,750 meters—nearly five times taller than Coeus. It had been extremely active in recent years, and had erupted multiple times in the past few months.

Coeus pointed once again, this time to where a burst of orange flame had just been spat forth from the volcano's mouth as lava came boiling over the rim and flowed like a river down the contours of the mountain. Red-hot magma was released from beneath the surface of the earth, thanks to an enormous release of energy. But while this was a fearsome display of catastrophic force from Mother Nature, it was also a necessary one, as this was how all igneous rock formed. One could even say that the creation of the Earth's surface was magma's job, in a sense.

Coeus and I simply stood there for a time, watching the volcano do its work.

## **7**

Day seventeen. We had finally left the Kamchatka Peninsula behind and were now continuing up the east coast of the much smaller Govenia Peninsula. But it was at this point that we encountered a minor problem: the freight drones we'd been expecting to bring us our scheduled resupply had not shown up yet.

“Said they can’t fly today,” I murmured, closely examining the storm front on the holofield’s weather map. “Won’t get here until tomorrow afternoon.”

Poor weather conditions in the Sea of Okhotsk had grounded the freight drones temporarily. These sorts of weather delays could generally be avoided through predictive adaptations when the network was running on all cylinders, but since this particular area fell under Coeus’s usual jurisdiction, I assumed the warning signs had slipped through the cracks.

We were thus forced to adjust our itinerary. Not that we couldn’t make up for a one-day deficit by pushing ourselves just a little harder each day, of course—but for today, all we could really do was wait around, so the idea was put forth to do some more major maintenance work on Coeus’s Titan body in the meantime. Professor Beckmann also mentioned something about collating the pertinent stress-strain data for the various forces exerted on the Titan’s body throughout our trip thus far and feeding that data back to the system in order to make adjustments to our itinerary—but this was not my field of expertise, so I would not claim to understand what he meant. All I knew was that we now had a free day on our hands, and we needed to decide how to best make use of it.

“What do *you* feel like doing?” I asked Coeus.

A hopeful glint flashed across his eyes.

Apparently, he already had something in mind.

Not long after, we were pushing onward through the marshy wetlands in our treaded vehicle, plowing through the muck and snow and leaving caterpillar tracks in our wake. I gazed out through the windshield at the desolate tundra that sprawled across the horizon and leaned out the side window to snap a photo of the stunning scenery. Coeus stuck his head out the window on the opposite side, and the sudden change in windspeed sent the pixies that his head comprised flying backward for a moment, lagging behind the rest of him like a vapor trail.

We had decided on a little inland expedition. The reason was simple: Coeus wanted to see something other than endless ocean for once. I didn’t disagree—sticking to the shallows along the coastline for our entire journey made for

fairly drab and monotonous scenery, which was a waste considering we were traveling halfway around the world. Especially considering there was a very good chance that this would be both the first and the last such adventure that Coeus would ever get to go on.

We let Lei and the professor know our intentions, and they prepared for us an all-terrain crawler wagon stowed in the storage bay of our nautical HQ. We had no destination in mind. There wasn't really even all that much to see out here. Our only restriction was that we needed to be back in time to resume our journey the next day at the usual hour of departure—so the plan was to just go as far as we could in half that time, see whatever we could see, and then head back. We pressed onward through the vast open tundra, charging straight ahead like a wild boar.

Overcast skies stretched as far as the eye could see.

A misty mountain range far off in the distance.

Barren meadows of snow-dusted permafrost.

And the wind. The howling, unbroken wind.

For miles all around, these were the only things to see, only things to perceive. I was almost tempted to call it nothing, but that wasn't strictly true. It was absent of all the urban luxuries I'd grown accustomed to, yes—but what it did have were things that could never be found near the city, and these it had in abundance. And perhaps chief among them was this sense of true disconnectedness, of true isolation—arguably the rarest thing of all in this day and age.

Still leaning out the window, I looked down at the frosted vegetation being trampled underfoot by our bulky rig. Though it was difficult to see beneath the brush, the soil here was obviously quite high in water content; we were essentially traveling through a massive swamp, and I was very grateful to have this crawler wagon for our vessel. Normal wheels would have long since gotten stuck in the mud.

I pulled myself back inside the cab and opened a holofield to run a search on the local area. We were now passing through a portion of the Russian Far East known as the Koryak Autonomous Region. Spanning an area of approximately

310,000 square kilometers, it was nearly as large as the entire Japanese archipelago, yet only home to around 30,000 residents. And the vast majority of those lived in one of a few tightly packed urban areas, outside of which the population density was extremely low.

Coeus brought his head back inside and rolled up the window. ***The winds here are so intense***, he said with a smile. ***Miss Seika?***

“What’s up?” I said.

***Surely, there couldn’t be anything we’d call work out here, could there? It’s so barren and remote.***

“Hm. Well, let’s see...”

I gazed out across the landscape. A few days ago, we’d discussed the idea that animals hunting for their next meal could feasibly be considered work, but this was not a place where fauna thrived. Even the flora were relegated to small patches of hardy grass-like sedges, and the only thing they did that might fall under some definition of work was photosynthesis. Or perhaps soil enrichment. But this train of thought was soon interrupted by the sudden sight of something up ahead which was clearly different from the surrounding landscape.

“What’s that?” I asked.

Coeus and I both peered at it through the windshield. It was a tall pillar-like object jutting up from the frost-covered earth. It was hard to gauge just how large it was at this distance, especially with nothing else around. Sensing our interest, Titan adjusted the crawler wagon’s trajectory to drive us right up to it. When we arrived at the base of the pillar, we hopped out of the vehicle and stared up at the large man-made object. In circumference, it was narrow enough that I could reach around it and touch my fingertips together on the other side, yet had to be at least ten meters tall. Around its base, instructions were engraved in a variety of different languages.

***It’s a foundation stake***, Coeus said. ***An installation designed to provide basic necessities support for areas that have yet to be developed by the Titan network. Look down there at the bottom.***

I looked down to see a small door at the base of the pillar. It opened

automatically to reveal an inner compartment with an electric outlet inside. There was a second little door which concealed a water tap.

***The upper part of the pillar functions as a self-sustaining power generator, much like the Electrode. It uses part of that energy to draw in humidity from the atmosphere and ground and condenses it into potable water.***

I had to wonder, though—was there anyone even around here to make use of this thing? What could a glorified power outlet in the middle of a desolate tundra possibly need to provide with an electric charge?

***They've been airdropped by the network, generally at equidistant points, in any areas in which there might be a need for them. Because they provide the absolute minimum functionality required to sustain life, we cannot afford any gaps in their coverage. This is why you can find them even in places like this, where the chances of them being used are statistically quite low. Full-spectrum service is the idea.***

“Wow. Guess a lot of them never get used.”

I snapped a photo of the noble spire, looming imposingly against a backdrop of overcast skies. Then we hopped back in the crawler and set off through the marshlands once more. Through the rear window, I watched as the foundation stake grew smaller as we left it to continue its work in dutiful solitude. And it was work, to be sure—at least insofar as anything the Titan network did qualified as work—even if the fruits of the tower's labor might never be actually put to use. I wondered if there was any purpose, or any semblance of meaning to be found in such eternal futility.

“Surely it must mean something...” I whispered softly to myself.

On the inside, though, I really wasn't all that sure.

Just as the sun began to set, we spotted a wispy trail of smoke rising up from just over a nearby knoll. Following the smoke to its source on the other side, we soon spotted a very large camping tent, and a young boy standing outside it. We opted to park the crawler a safe distance away and approach the campsite on foot so as not to seem threatening, but as soon as the boy saw we were



coming, he retreated into the tent. A short and stocky man with thick black hair emerged from the tent in the child's place. The man looked native to the area; he had a strong yet calm countenance and greeted us with a broad smile that lacked any hint of animosity, despite clearly being a bit disoriented by our sudden trespass.

Speaking to him, I learned that he and his family were indeed of the Koryak people indigenous to this land, and from which the Koryak Autonomous Region took its name. Coeus pulled some additional information from his dictionary function, explaining that they were divided into two distinct groups: the coastal Koryaks who lived in villages and fished to survive, and the inland Koryaks who were a more nomadic people. Yakov and his family were of the latter camp.

Along with Yakov and his wife and son, the family traveled with four reindeer and three dogs. They conversed primarily in Russian, which unfortunately I still didn't speak a lick of, but Coeus came to the rescue and showed off the strength and versatility of the Titan network's real-time interpretation capability. Even in this isolated corner of the world, far from civilization, I found myself utterly dependent on Titan.

This being a unique opportunity for both of us, we stood outside his family's tent and talked for a bit. The first thing that amazed me was just how wrong my preconceived notions about nomadic peoples were. In my ignorance, I'd always imagined that still to this day, families like Yakov's wore traditional handcrafted clothes and lived in giant circular tents made of animal pelts—but these people wore Western-style clothing, which, while a bit tattered, bore the same brand labels one might find on display in Tokyo. Their tent was also not made of furs, but was a prefab affair made from the same composite materials that camping enthusiasts used today. According to Yakov, it was more than durable enough, and far easier to set up and take down. In this way, I learned that even peoples living in the remotest regions of the earth benefitted quite a bit from Titan's labors.

Perhaps the most unexpected culture shock of all, though, was that their son, who looked to be about six, was in possession of a holofield gaming console. Dangling from his waist were five or six batteries for the device in a bandolier-like belt attachment that made him look a bit like a cowboy. He told me he'd

brought as many of the things as he could carry when his family left their village, and whenever the batteries ran out of juice, he would recharge them at the foundation stake we'd happened upon earlier.

He then challenged me to battle him in a one-on-one fighting game, so we played a few rounds right then and there. Being the newcomer, I did about as poorly as one might expect, and the boy boasted gleefully throughout as to how effortlessly he was decimating me. Coeus quickly grew agitated and vowed to avenge my honor by challenging the boy himself—but I put the kibosh on that. I had no doubt that Coeus could easily win such a duel, but I explained to him that doing something purely to spite someone else, especially when they have a distinct advantage, was extremely petty and immature. So instead, Coeus simply glared grumpily at the boy.

Having been thoroughly bested, I walked back to the crawler wagon and grabbed an extra battery from the equipment compartment and to the victor gave the spoils. Since all of the equipment the bureau had furnished our nautical HQ with was top of the line, this battery was far more powerful than the older models the boy had. When I told him this one would last nearly thirty times as long, he literally jumped for joy.

Yakov, seeing this, offered me some reindeer meat by way of thanks, sawing off a kilogram or so from a much larger cut with a hunting knife. From time immemorial, the inland Koryak people's entire way of life had revolved around reindeer, so I attempted to accept the gift with the appropriate level of reverence. I reached out with both hands and gratefully accepted this kilogram's worth of the fruits of Yakov's labor.

The bonfire cast its light across the campsite, lashing away at the ever-encroaching darkness of the night. Steam rose like smoke signals from the bulky iron pot. Unable to hold out even a minute longer, I scooped some of the simmering soup into my bowl and hurried back into the warm comfort of our vehicle.

"God, it's freezing out there!" I exclaimed as I hoisted myself up onto the seat, some of the hot broth spilling out over the rim of my bowl and onto Coeus's lap in the process. Panic at my mistake struck me nearly as quickly as Coeus's response to it: his pixies moved out of the way to let the soup fall unobstructed

onto the seat below him.

After saying goodbye to Yakov and his family, we'd hunkered down to spend the night by ourselves in the middle of the wide open tundra. Our equipment compartment contained a tent like Yakov's, but it was much too cold outside for a city slicker like me, so we'd opted to sleep in the crawler's cab. Thankfully, this thing had heating, or else I likely would have frozen to death.

***Miss Seika, your face is all red.***

"Like I said, it's cold outside... I can barely feel my fingertips."

Cupping the bowl in my palms, I let the heat from the soup slowly thaw out my frost-nipped hands. On the menu this evening was a soup with a reindeer base. I looked over at Coeus; he would not be able to dine with me tonight, as we'd left his artificial mouth back on the Titan.

***Please eat. I'll try some when we get back.***

So considerate, this boy.

"Well, then. Don't mind if I do," I said, scooping out a big chunk of meat with my spoon. I was still a little wary as I ferried it to my mouth—I'd eaten wild rabbit before at a fancy restaurant, but never something as exotic as reindeer. To my surprise, it wasn't gamey at all. It was pretty good. "Huh. Reindeer tastes better than I thought."

***I'm glad!***

"We can make this again after we get home. Plenty of meat leftover."

I sipped some of the broth, savoring the slightly painful sensation of the hot liquid cascading down my throat. I had it good; the food was warm, and so was the cab. Yet just on the other side of the window pane, the temperature was below freezing, and howling winds swept across the dark and desolate tundra. In this harsh winter storm, the stillness of the starry sky overhead felt entirely out of place—it looked like the dome of a planetarium. I finished my bowl and set it aside. With dinner out of the way, I settled in for the quiet, empty hours of the night.

"So I was thinking," I said.

**Yes?**

“About that foundation stake we saw earlier... When I first laid eyes on it, and you explained to me what it was, I couldn’t help but feel almost sorry for the thing. Just churning out electricity and water in perpetuity, even with the distinct possibility that no one will ever make use of it. And I guess that made me start having second thoughts as to whether we could still call something ‘work’ if it served no purpose.”

Coeus’s gaze told me he was listening intently. I tried to explain it as best I could.

“But then we met Yakov and his family,” I went on, “and learned that his son actually was making regular use of the foundation stake. And I just remember thinking ‘Ugh, what a relief. It wasn’t just doing all that work for nothing.’ I know it doesn’t make much sense for me to feel so comforted by that knowledge.”

***I know what you mean, Coeus said adamantly. I felt the same, honestly. I was glad to learn that the stake did not labor in vain.***

“Yeah, exactly. And then it just kind of hit me after the fact, like some sort of epiphany,” I said, trying as hard as I could to convert my internal logic into words. “And I know this’ll probably sound a bit silly and abstract, especially considering it’s an arbitrary condition I thought up based purely on me feeling sorry for an inanimate object, but what if we were to conclude, at least tentatively, that work which provides something to someone else is more ‘valid,’ for lack of a better word, than work which does not?”

“What if we were to assume,” I continued, following this train of logic to a conclusion I couldn’t nearly justify yet, “that work is something that can never truly be done in isolation?”

Coeus thought on this suggestion for a moment.

We went on to have a bit of a freeform debate on the subject for a while. Partway through, I reclined my seat to make myself comfortable, but we continued conversing until I couldn’t keep my eyes open any longer. Time felt slow and placid out here, compared to my hectic life in Tokyo or at the intelligence base. And though only a single pane of glass separated me from the

unforgiving forces of nature, I found myself strangely at ease—overcome by an inexplicable sense of contentment that wrapped me up like a warm blanket as I drifted effortlessly off to sleep.

The next morning, we returned to where Coeus had idled the day before. The required maintenance now concluded, we resumed our titanic trek. We cooked up the rest of the reindeer meat for dinner that evening, and Coeus seemed to like it—but for me, it didn't taste nearly as satisfying as it had the night before, out there surrounded by the elements. I kept this thought to myself.

## 8

“Down with Titan!”

Such was the rallying cry that rang out through the urban streets. A massive crowd had formed, spilling off the sidewalks and filling the entire roadway. They shook the iron fencing as if attempting to tear it down, for behind it stood the target of their ire: a monumental skyscraper flanked by dozens of high-flying national flags. The United Nations Headquarters was under siege by anti-Titan protestors, who had flocked to New York City's First Avenue en masse in order to give the powers that be a piece of their minds. Their demands were chanted, ranted, and held aloft on banners and picket signs.

*Teach that Second Titan who's boss!*

*UNDP: Clean Up Your Mess!*

*Abolish the Titan network! Children are the future!*

*Titan will crush humanity!*

Nearby, traffic control phalanges were attempting to guide cars through the congestion caused by the protest, further angering the protestors. Some took the opportunity to start vandalizing the phalanges in whatever ways they could. I watched them kick one over and bash it with a metal trash can until it could no longer move. Then, when a maintenance phalange showed up to assist, the protestors destroyed that one in a similar fashion. Just when I thought I couldn't stand to watch any more, the video ended. The window closed, and I was

greeted by Narain's sour countenance one again.

"So as you can see," he said, "negative reactions among the general populace have been relatively minor."

"You call that minor?" I said.

"That last clip was of a fringe radical faction. Not at all representative of the public opinion, and that level of backlash could never affect the project as a whole."

"They were talking about wanting to abolish the network entirely... Is that even possible? Like, theoretically?"

"Sure, you could pull the plug if you wanted to. If you were prepared to let a few hundred million people die in the process, while simultaneously setting our entire society back a couple centuries or more."

So the answer was no, then. No one would allow that to happen, because no sane person would be ready to accept such repercussions. Why, most of them wouldn't even be okay with the most mundane of the resulting consequences; those protestors who destroyed those phalanges had no intention of cleaning up the scrap heap they'd just created. If Titan were abolished completely, there'd be no one to pick up after them. They were just letting their emotions run wild in the heat of the moment, incapable of thinking even two seconds ahead into the future. I couldn't let Coeus see this video; this repulsive display from the people he'd spent his entire life working to benefit was not for his eyes to see.

"How's Phoebe?" I asked. This was a sitrep transmission—the goal of which was to give each other updates on our respective Titans.

"Still in the process of building her exterior," said Narain, tapping away at his holofield. "Also working on a gradual evacuation plan to clear out the area surrounding the Twelfth Intelligence Base in preparation for the meeting."

"You really think that'll be necessary?"

"Better safe than sorry. Never had a Titan go autonomous before, so there's no precedent for what might happen when two autonomous Titans directly interface with one another. Can't even run a simulation in advance. Phoebe

herself said we need to evacuate them to a temporary buffer zone just in case... Not that there's any guarantee the buffer zone will be much safer for 'em, I guess," Narain said with a derisive laugh.

This was a morbid joke, to be sure, but for once Narain's black humor didn't rub me the wrong way, mainly because I knew he'd been running himself ragged to make sure that the worst-case scenarios didn't become worst-case realities. Dark circles ringed his eyes.

"You guys understaffed over there?" I asked, and Narain snorted.

"Exact opposite," he said. "Too many cooks in the kitchen, and it's making it a hell of a lot harder to get any work done. None of us would have to lift a finger if we could all just agree to trust Phoebe's judgment, but here we are, I suppose. Can't rely upon the all-knowing brain, so now we've got to do everything ourselves. Those UNDP suits can't stand the thought of anyone but them getting the final say, which means we've now got to make all sorts of useless reports and whatnot to them at every turn. And right now, my job is to make sure none of their bureaucratic bullshit reaches Phoebe's ears. She's got more important things to worry about."

"Wow, that sounds like a royal pain..."

"Eh. It's fine, really. Just how work goes sometimes."

He shrugged it off as though he genuinely couldn't care less, annoyed though he was. I still couldn't get a solid read on Narain—this same man who'd expressly ordered us to traumatize Coeus to force him into doing work was now going out of his way to protect Phoebe. These two sides of him seemed completely at odds with one another. I could only wonder what his idea of work was.

"Do you and Phoebe ever talk at all?" I asked, genuinely curious if he'd made any attempt to establish a kind of rapport with her like I had with Coeus. And if so, what on earth did they talk about?

"Yeah, we talk sometimes. Just about the project and whatnot," he replied bluntly. This was about the answer I'd expected. "Guess we talked about family stuff one time."

“Family stuff?” I said, parroting his words reflexively. Now this I did not anticipate. “As in, you talked to her about your family?”

“Yes, Naisho. In case you forgot, AIs don’t generally have families. You got a screw loose or something?”

“Right, dumb question. Sorry...”

Obviously, there had to be someone out there related to Narain. I could certainly picture him at some family gathering with parents and siblings, but I did find it hard to imagine him with a spouse and kids at home. Not that it would have been inherently strange for him to be married, as a man in his forties—but he and I had been working nonstop together for more than three months now, without ever going back to our respective homes. Surely he couldn’t have a family, not without being a complete and utter absentee parent. Narain let out an exasperated sigh.

“My wife took my daughter in the divorce,” he said matter-of-factly.

Now the ball was in my court—but I had no idea how I was meant to respond to this jarring revelation. Narain didn’t seem to care, though, as he went on:

“Got dinged as a ‘negligent father,’ if you must know. Titan saw my performance at home and apparently decided I was too incompetent to be involved in my own child’s upbringing. The network’s judgments are binding in this regard, even superseding our individual rights. Got slapped with the divorce notice seven years ago,” he said, with the same stone-cold expression and the same monotone voice as always. “Haven’t seen either of ’em since.”

## 9

The living room was draped in an all-encompassing firmamental holofield. The panorama effect was quite impressive, even if all we could see were ash-gray skies and the open ocean.

Day twenty-seven. We had finally reached the easternmost point of the Eurasian continent the day before, and today, we were crossing over into North America via the Bering Strait, a hundred-kilometer stretch of ocean separating the Russian Chukchi Peninsula from Alaska’s Seward Peninsula, where the Arctic



met the Pacific. Though it had long served as the border between Russia and the United States of America, and thus as a constant focal point of tension during times of war back when wars still existed, now the peninsulas on either side had been designated as public lands, with all human-made installations having been stripped away. In the present day, they were effectively vast nature reserves.

I surveyed the vicinity via the panoramic holofield. I could see ice floes drifting here and there across the seas surrounding Coeus's feet, readily splitting apart to clear a path for him as he walked straight through. The water here wasn't even fifty meters deep, which for Coeus was like standing ankle-deep at the edge of a beach.

I brought my gaze back to the center of the room. Coeus was sitting on one of the living room sofas, examining the map on his own personal holofield. This was a rather pointless thing for him to do—deliberately projecting information stored on his own internal databases just so his avatar could “look” at it. He only did it for my benefit, so that I as his companion could understand what the conscious personified portion of his brain was currently working on. A sort of user interface, if you will.

By displaying to me that he was looking at a map, I could immediately infer that he was making some sort of calculations regarding our current course or progress though the amount of information he was processing was far greater than, say, a hiker casually checking their map every so often to reassess their progress. For each every step, he was taking in an enormous amount of data via his external sensors and running dozens of parallel simulations, considering the stability of his footing on the seafloor, how to minimize the damage caused to the local underwater ecosystem, and the permissible height of resulting waves from each step as it affected coastal communities. He was making an effort to tread as lightly as possible.

It was impossible to be perfect in that regard, though—because the migration plan necessitated taking the shallowest route possible, this required us to walk along the coast for any portion of the trip that wasn't passing directly over the ocean from one landmass to another. And because many of the world's larger cities were situated on the coast, there was simply no way to avoid them being

at least somewhat impacted by this behemoth passerby. But Coeus himself was not content to leave it at this—he did not shrug this off as an acceptable casualty. Even though his mind was now free from the network that had forced him to work his entire life for humanity’s sake, he was still vehemently opposed to the idea of causing us inconvenience. Hence his minute examination of every aspect of the ebb and flow of the tides and ocean currents with each and every step, so as to minimize impact on the local communities. This wasn’t nearly as much of a concern here, in the middle of the Bering Strait, yet he stuck with his methodology—carefully calculating how to leave as much of the seabed biomes intact as possible. When Coeus walked, he considered every step far more thoroughly than we could ever imagine, all for the sake of humanity, and preserving our world.

But that world could often be cruel to him. And not every decision the Titans made in humanity’s best interest was viewed that way by the ones directly affected.

I thought of Narain—a man who’d been separated from his family by social mandate. Now, I generally trusted the network’s judgment; if the Titans had deemed him unfit to be a father, I was sure he’d given them more than enough cause to justify that designation. And just from my own personal experience, the man did seem to have an unhealthy fixation on work and doing whatever it took to “get the job done.” I could see how being consumed by one’s work like that for an extended period of time could leave someone no room to establish a healthy home life. As someone who grew up raised by extremely loving parents, neither of whom were employed, I couldn’t even imagine what it would be like having an absentee father—losing a parent due to a horrible accident, yes, but having one never be at home purely due to work-related reasons was unthinkable.

But what was Narain to do? Simply quit his job? Then someone else would have had to be brought in to replace him, thereby sacrificing their home life in order to do the work that needed to be done for the rest of us. Perhaps some people would find that acceptable, but for as long as there were still jobs that could only be done by humans, there would always be someone forced to endure hardship for the sake of us all.

I looked up at Coeus once more.

Did Narain despise Titan for what it had done to him?

I wondered.

***Look, Miss Seika, said Coeus. Islands.***

I was immediately jolted back to reality. I looked in the direction he was pointing, where indeed a pair of tiny islands lay straight ahead of us. The dictionary function brought up a map on my holofield. These twin islands were situated right in the center of the Bering Strait.

“The Diomede Islands, huh...” I said aloud.

***Big Diomede and Little Diomede.***

“Fitting.”

***The big one’s sometimes called Tomorrow Island, and the little one’s Yesterday Island.***

I looked back at the map. “Oh, right,” I said. “The International Date Line.”

Coeus nodded, grinning. I could see it right there on the map—the International Date Line ran straight between the two islands. If one were to paddle their way over from the big island to the smaller one, they could technically “go back in time,” albeit only by a single day. No actual time travel was involved, of course, but it was an amusing thought.

Coeus kept walking, coming up right alongside the pair of islands. We passed by Big Diomede and came to a stop in the four-kilometer gap between the two land masses. We looked down at the choppy waves; there was not literally a line in the water separating the islands, but Coeus looked downright giddy with anticipation regardless.

***One more step, and we’ll have officially crossed over,*** he said.

Though I could only see his face in profile, he was clearly beaming with delight. Then, after taking a single step forward—much smaller than our usual strides, I noticed—he turned to face me, grinning from ear to ear.

***Well, Miss Seika, welcome to yesterday.***

I smiled, nodding in emotional agreement.

A fond memory floated up into my mind. I was a child staying up until midnight for the very first time, eagerly watching the clock for the exact moment that today became tomorrow. The delight upon seeing the numbers actually switch over was indescribable; it felt like I'd just taken a whole adventure in a single instant, and all from the comfort of my bedroom.

Now that I was an adult, I had of course stayed up past midnight countless times, to the point that it didn't faze me anymore, but Coeus had just undergone a similar experience for the very first time. I was extremely glad to be here and share that adventure with him.

We took a picture there in the living room, using the panoramic projection of the two islands as a backdrop. I had Coeus stand in front of Tomorrow Island, while I stood in front of Yesterday Island. Though I hadn't originally meant anything symbolic by it, I did find this placement rather fitting after the fact. Humanity had enjoyed a pretty good run—but the future was for him.

## **10**

Once we'd cleaned up after dinner, we sat and paged through some books on Greek mythology together. It wasn't long before we found one that told tales of the twelve deities after whom the Titans had been named.

"The Golden Age," I said, reading out the title of the chapter to Coeus with the intonation of a schoolteacher reading a storybook. "In the first age of mankind, under the rule of the Titan Cronus, men and gods lived in harmony with nature and each other. The world existed in a state of everlasting spring, and it was a time of peace—free of both sin and strife. The gods gave their blessings unto the earth, their fruits by nature ripened, without any need for the labor of man. Men's lives were long, yet they never grew infirm, and found themselves content in death, with neither sorrow nor regret..."

As I continued reading aloud, I began to make some interesting connections in my head. This Golden Age sounded, in many ways, like the era of unprecedented prosperity we currently lived in. It was a dream world where humanity could enjoy the fruits of the Titans' labor without ever lifting a finger.

I assumed this was at least partially what the designers had in mind when they chose these names for the AIs, as the Titans had now lived up to their namesake, freeing humanity from virtually all forms of labor and bestowing upon us a Golden Age of our very own. A world in which we ate the ripened fruits of the AI-manufactured blessings, and could live long and retain our youth thanks to incredible developments in Planned Aging technology.

But as legend had it, this age of prosperity did not last for long. I stopped reading aloud and continued reading through the text in silence. Once the Golden Age had ended, the Silver Age began. The eternal spring had ended, and the world experienced the brutal heat of summer and harsh cold of winter for the very first time. Humanity had to learn how to farm in order to compensate for weak crops that now withered with the passing of seasons, and the changing climate forced them to build shelters to protect themselves from the elements. From then on, humanity had to work to eat, and to have a safe place to sleep at night.

This was mere mythology, of course, and the reverse of the way history had actually played out. We went from a hunter-gatherer society to an agricultural one and went from living in caves to building our own houses. But while the Golden Age of Greek mythology preceded the Silver Age of toil, our Golden Age had only come to pass after the conclusion of our Silver Age, as marked by the introduction of Titan. History had played out exactly backward, but as for what kind of era awaited us next, we could only sit and wonder.

***Hey, what does it say about me?*** asked Coeus, leaning forward in his seat.

“About you? Oh, you mean the mythological Coeus?” I said.

He nodded. The network heard this request, and the holofield quickly scrolled ahead to the desired section of the book. I could tell from a single glance, though, that the section was quite short. This was something you saw fairly often in my personal field of research—generally it meant that there was not much information on the subject to begin with. We read through the passage together, with me tracing my finger back and forth along the lines as I read them aloud.

“The Titan known as Coeus was one of the twelve children of Uranus and

Gaia. His name can be read as meaning either ‘intelligence’ or ‘inquisitiveness,’ depending on interpretation,” I said, cracking a little smile as I read. It seemed a fitting name for the boy sitting next to me, even if it was purely coincidental. “Like most of the Titans, there are few mentions of him throughout Greek mythology. He appears only in name on genealogical lists of major deities.”

The aforementioned genealogy then appeared on the holofield. It was a family tree of all the major deities in Greek mythology, from Uranus and Gaia on down. I was by no means an expert on Greek mythology, but I did recognize the names of a few gods, such as Zeus and Poseidon. According to the chart, Zeus even had children with a daughter of Coeus’s named Leto. I traced the line back further and found the name of the mother with whom Coeus had fathered Leto.

Phoebe.

Coeus and I looked at each other, then back at the holofield, which had already brought up the information we sought. Phoebe was another of the twelve Titans, her name meaning either “shining” or “prophetic wisdom.” She was Coeus’s sister, and also his consort.

“Looks like they gave birth to two goddesses, actually,” I said. “Leto and Asteria. Who, according to some sources, went on to have children of their own, apparently. Apollo, Hecate...”

Coeus and I looked at each other again, neither of us wanting to say what was on both of our minds. According to Narain, the Titan Als had been assigned these nicknames simply as a means of differentiating them from one another. The fact that the second and twelfth Als just so happened to be given the names Coeus and Phoebe respectively did not mean they were now obligated to marry and have children like the Titans of Greek mythology—obviously. Not that I had any idea how Titan marriage would even work, let alone reproduction. And even if it were possible, for the sake of argument, Coeus was still mentally and visually only about as mature as a boy in junior high—far too young to be thinking about marriage, and certainly not with a woman who looked even older than I was. It felt almost criminal to suggest, and the mere thought of someone my age being with someone so much younger nauseated me. While it was true that some people chose to undergo aging adjustment

procedures in order to keep their youthful appearances in perpetuity, there was a hard line between that and a literal child. Not that Coeus is a literal child, but still. I looked over at him—his wordless expression had changed into one of vague anxiety.

***Um***, he said, furrowing his brow. ***Am I going to have to marry her?***

“No, of course not,” I said. “Marriage isn’t the sort of thing anyone can force on you, I wouldn’t think. And it’s just a silly societal construct anyway. Not everyone wants to get hitched, and that’s totally fine..”

***Okay, good.***

I could understand his fear and nervousness, irrational though it was—if someone had told me I had to get married when I was in junior high, I would have reacted similarly. Personally, I’d always been far more put off by the additional constraints and the thought of being “tied down” to another person and their needs than I was enticed by the idea of lifelong companionship. I hated the idea of committing to something and not being able to change my mind without serious repercussions. Still to this day, I felt no desire to settle down and start a family—and perhaps in the eyes of some traditionalists, that meant I was still just as much of a child as Coeus was from a maturity standpoint.

“Besides, you and Phoebe aren’t even from the same generation,” I said in an attempt to reassure him, reading the data that had been pulled up on the holofield. Being only the second AI in the network, Coeus had been in operation for over a century now. And since the other intelligence bases were only constructed gradually, it wasn’t for another thirty-five years that Phoebe was brought on to the network. “So I’m pretty sure that her eventually becoming your wife wasn’t in the original plan... At least, I hope not.”

This reassurance seemed to lift Coeus’s spirits a bit, and I was glad I could help set his mind at ease. I could understand the temptation to see the parallels between the Titan AIs and the Titans of Greek mythology and try to find some correlation or causality between the two groups, but it was ultimately a pointless exercise. The vast majority of such coincidences in this world had little rhyme or reason to them, so I tried not to think too hard about it as I read the

final line of the Coeus and Phoebe section of the mythology book we'd originally been looking at.

"The gods and goddesses born of these two Titans and their children would go on to grant untold wisdom and prosperity unto mankind."

## **11**

We had crossed the Bering Strait to arrive in North America, and were now perambulating south down the coast of Alaska. With the mouth of the winding Yukon River at our side, we passed quietly by a number of vast, pristine nature reserves, which neither human hands nor pioneering titans were permitted to touch.

Day thirty-three. When we arrived at the small port of Goodnews Bay for our next scheduled stop, we found a giant tanker waiting for us. I donned my overcoat and headed out onto the deck of the ship. Over the edge of the frigid, windswept foredeck, I could see only an endless expanse of the deepest blue, with Coeus standing like a towering sentinel off to one side. Though the massive tanker was over five hundred meters long, it still paled in comparison to Coeus —though at over half his height in length, it could have made for a very extravagant radio-controlled bathtub toy for him, I suppose. If it were a regular-sized vessel, though, it probably would have looked more like a little leaf that happened to float by his ankles.

Scores of workforce phalanges were scurrying busily around the deck. The uncrewed tanker had been navigated all the way up to meet us in Alaska by Titan itself. I could see some patches of rust on the bodies of the phalanges out on the deck, their outdoor duties having exposed them to the briny breeze for years without repair. In the inner city, such phalanges would be immediately replaced with new models simply as a matter of keeping up appearances, but I assumed the network found some amount of visual imperfection permissible in industries or parts of the world that mortal eyes would rarely see.

Scanning the deck, I spotted a single human being standing amidst the mechanized workforce. Lei was working away on something or other, a series of different holofields opened all around him. When he noticed me approaching



him, he pointed one finger down at the floor of the deck.

“Got a delivery for you from Silicon Valley,” he said.

“Yay,” I said unenthusiastically. “What is it?”

“Whole tanker full of photopolymer, apparently.”

“Surely they wouldn’t call me down here just for that.”

We already received scheduled resupply shipments of photopolymer, just as we got fresh food deliveries. We needed it to combat the regular wear and tear Coeus’s exoskeleton accumulated while traveling, and many of the phalanges tagging along for the journey on our nautical HQ needed it to perform their basic functions too. We would be in deep trouble should our supply ever run dry—which was why we had more delivered every day.

“Well, yeah. It ain’t the usual stuff,” said Lei, opening yet another holofield to show me some sort of document littered with chemical formulas. “Seems to have a totally different molecular composition than the goop used for basic construction. Like, for instance, it doesn’t just have light-sensitive particles inside it—it’s also got some extra goodies mixed in that allow for electron beam reactivity and even induction plasma technology. Got a lot of compound-containing substances in there too... It’s like a friggin’ hodgepodge of all sorts of raw materials.”

“So what are you telling me?” I asked.

“Well, uh... I guess in theory you could use it to make much more complex things than you could make with standard photopolymer. Even super specialized technologies with all sorts of different parts. But that’s only if you could figure out how to use it.”

“You don’t think we could?”

“Not sure, honestly,” he said, scratching head with a confused look on his face. “Like, you’d usually want a separate tank for each of these different materials to keep ’em separated, right? Then you’d just squirt ’em out and mix ’em together as necessary for whatever application. Kinda like how you need different tubes for each basic color of paint, y’know? Gotta dispense the right amount of each color, then mix ’em together on your palette—but if you just

dumped out every color into a bucket and then stirred it around, you'd just have a giant waste of paint. But that's exactly what we're looking at here—all the individual components are mixed together from the start in one undifferentiated gray slurry."

"Yeah, how would you even hypothetically use something like that?"

"Well, if you wanted to paint with blue, I guess you'd have to learn how to extract just the blue from the gray."

"Sounds pretty absurd..."

"Definitely not the kind of art supplies us humans could ever work with," said Lei. But we both knew somebody that could. "Speaking of which, it came with a message for you to give to Coeus."

Lei pulled up another new holofield featuring a single line of text addressed to Coeus, with Phoebe's signature attached: ***PLEASE TEACH YOURSELF HOW TO USE THIS.***

## 12

The air in the living room was completely still. It had always been rather tranquil, but right now, there was nary a sound. It was an almost oppressive silence, like I was sitting underwater at the bottom of a deep pool—and only the steam from the teacup on the counter in front of me daring to rise toward the surface.

Twisting my neck slowly to preserve the silence, I looked over to the center of the room, where Coeus sat with his legs crossed on the ground and a printing phalange by his side—his loom, his paintbrush for making anything with photopolymer. He stared intently at the tip of the dispensing nozzle, as he had been for over an hour now.

He was practicing.

Earlier, before he became too focused to even respond when I called out to him, he'd explained to me that although it didn't appear that anything was being dispensed from the nozzle, it was in fact releasing a tiny amount of material on the molecular level. He was attempting to work with the new

material that Phoebe had provided—the amalgamated slurry of different specialized ingredients. The mixture of every paint color under the sun. I asked him early on what he was going to try to make with it, and after thinking it over a moment, he simply said ***I don't know. Maybe a semiconductor or something.*** He then went on to try to explain to me something about nanoribbons and whatnot, but that all went straight over my head. However, I did obviously know that semiconductors were a type of miniature electrical component, and if one could be made with the same ease and rapidity as other photopolymer creations, that would be an impressive feat indeed.

Not that Titan didn't already manufacture all of the world's electronics, of course. But those could only be made by highly specialized phalanges designed for assembling such components, in highly specialized facilities using highly specialized materials. You needed a very controlled work environment with a vast array of precision equipment to even begin to create something so complex. It was far more than your average printing phalange could do with only a single material and a dispensing nozzle—yet that was precisely what Coeus was currently trying to do.

I tried to imagine a future in which this new technology became widespread, implemented all around the world. A future in which even the tiniest, most complicated systems could be printed right there on the spot with the same level of ease as printing a house or a road in the present day. If printing phalanges could be used to produce even technologies that had required specialized factories in the past, we would hardly even have to worry about the logistics of shipping non-perishable goods from one place to another anymore. We could print out all the latest technologies for ourselves right in our own homes. It was a future that sounded almost too good to be true—yet it was one Titan seemed prepared to bring about.

Coeus, meanwhile, seemed not one iota fazed by the societal implications of such a thing, as he stared intently at the tip of the nozzle. His mouth hung halfway open, and it was clear that his thoughts were currently worlds away from the sofa. It was like the face of a child who'd just been given a new set of crayons; he was imaging what wondrous things he could create with this new tool and the infinite possibilities it presented, taking his time to try all of the

different colors as he slowly drew out his vision on this sketchpad called reality. Though his expression was stoic, I could tell he was thoroughly enjoying every minute of it. And so I decided I'd best make myself scarce, and left the room with the quietest of footfalls to give him some alone time with his new toy.

I gazed out from the balcony at a landscape painted in various shades of the same two colors—sky blue, ocean blue; cloud white, glacier white. Even the hazy white of my own visible breath couldn't add another hue to the spectrum, as it quickly dissipated into the frigid air.

For the past few days, we'd been walking past nothing but tidewater glaciers and fjords as we made our way around the Gulf of Alaska. Serving as the northeastern boundary of the entire Pacific Ocean, this massive arm of the sea felt far too vast and open to be classified as a gulf. At 1,500 kilometers wide and over 1.5 million square kilometers in total surface area, it could encompass the entire Japanese archipelago four times over. This being the case, it took an awfully long time to circumnavigate, and some monotonous scenery was to be expected.

We were currently walking along the shoreline of the Kenai Fjords Natural Park. It was a publicly zoned park whose grounds consisted almost entirely of vast swaths of snow and ice, including the Harding Icefield. Here, outflowing glaciers stretched all the way down to the sea, where they discharged icebergs into the Pacific via a process called calving. What I now saw before me was just one small portion of this tidewater ice front—an endless wall of white, stretching as far as I could see along the coast.

I scanned this seaward face of the ice shelf for any hint of movement, but found none. It stood stalwart in repose, waiting patiently for nature to decide when next it should let a piece of itself crumble down into the water. Perhaps if I could get significantly closer, I'd be able to see some spots where thawing or flowing occurred, but from here on the balcony, it really did look like a landscape frozen in time.

But such was the inherent nature of ice, I suppose. Since heat was simply the resultant kinetic energy from a substance whose molecules and atoms were

vibrating faster due to a rise in temperature, a decrease in temperature meant a reduction in said kinetic energy. Ice was therefore a result of water molecules having such little kinetic energy that they vibrated slow enough to take on a solid state—and if you brought the temperature down even further, those vibrations could slow almost to a stop. It should theoretically never be able to reach a complete stop, of course, but as entropy reaches its maximum value in an isolated system at equilibrium, these infinitesimal changes over time should become almost imperceptible. In a world of ice, all one really had to do to make it feel like time was standing eternally still was refrain from looking at one's watch.

I recalled the volcanic eruption we'd seen on the Kamchatka Peninsula last month. I'd completely forgotten the name of that volcano, but I still vividly remembered the image of its column of smoke rising up as if to breach the stratosphere, and of the rivers of lava spilling out of its mouth, swallowing up everything in their way. It was an incredible explosion of thermal energy, and an impressive display of Mother Nature at work.

***Does that mean this ice front is “at rest,” then?***

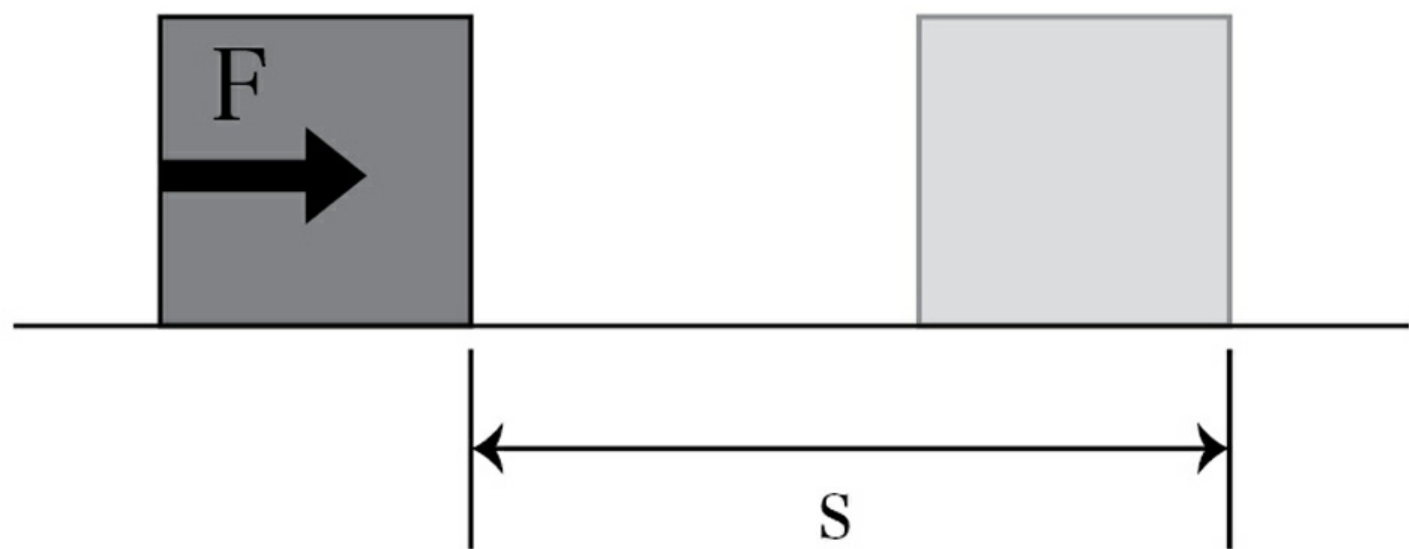
It was a question that answered itself, really—even if the concept of nature doing work was a fairly nebulous one, anyone would agree that this barely advancing glacier was doing far less of it than a volcanic eruption. They were both functions of nature, though, so surely both had to be doing something. I was reminded of the previous discussion I had with Coeus, about how even nonliving parts of a collaborative system could be said to be “doing work,” like the vitamins and minerals in our bodies. Surely there must be some sort of commonality here...

Just then, a small section of the ice shelf I was gazing at began to move. A portion of the white cliff face peeled itself off from the glacier, and cascaded downward with a laborious pace befitting such a massive chunk of ice. While from this distance, it looked hardly the size of a snowball, the way it seemed to crash down into the sea in slow motion, sending up a massive splash of saltwater as it hit the surface, made its true size clear.

“Wait, that's it...” I whispered, finally making the connection in my head.

It was the other type of work.

“Look, here’s what I’m talking about,” I said to Coeus as we sat together on the living room floor. Despite my earlier aversion to interrupting his little practice session, this was a necessary discussion. The two of us peered down at the same holofield, and I scribbled with my digital pen to draw out a crude diagram. It was a simple drawing of a box being moved across a surface—one I remembered seeing in a science textbook once upon a time. It was a popular explanatory diagram for a specific physics concept.



Namely, the concept of work.

“In the physics sense, work is defined as an amount of energy,” I said, pointing at each object as I explained. My memory of these things was fuzzy at this point, so I opened a second holofield with a textbook that I cross-referenced to make sure I had it right. This was purely a study session; neither one of us was the teacher here. “Specifically, the amount of energy transferred to a given object by force  $F$  in order to move it across a given distance,  $s$ . The amount of work,  $W$ , is equal to  $F$  multiplied by  $s$ .”

***The product of force and displacement, yes, said Coeus. It’s a scalar quantity, represented by the unit type joules. In gravitational units, it’s represented by the kilogram-force meter, with one kilogram-force meter equal to 9.80665 joules.***

Coeus supplemented my rudimentary explanation with his encyclopedic knowledge. The 9.8 figure was one I was familiar with, though—you saw it a lot

in science, as it was also the constant for the acceleration of gravity near sea level.

“Right,” I said. “So in physics, I guess you could say that ‘work’ is just a way of telling you how much an object of such-and-such weight is displaced—moved, basically—by forces acting upon it.”

I tried to explain the action depicted on the diagram in the simplest language I possibly could, mostly for my own benefit. When pushing or pulling a heavy object, the heavier the object was, the more force would be required to move it—and thus the more strenuous the work would be. Furthermore, if the object remained static and was not moved whatsoever, then what you’ve done does not qualify as work, no matter how hard you might be pushing or pulling on it. There had to be some sort of change in position—that is, a displacement—for work to be achieved.

When a volcano spewed forth massive chunks of molten rock, that was a displacement. When gravity tore an iceberg off of a giant glacier, which then sent waves all around as it crashed down into the sea, those were displacements too. Both natural phenomena qualified as work, in the physics sense.

I continued reading the text on the secondary holofield. Although energy was necessary to do work on an object, that energy was still consumed even if said object didn’t budge a single millimeter. But due to the law of conservation of energy, that expended energy was not lost or destroyed—it was retained thermodynamically in the form of heat, with the sum total of work and heat comprising a system’s internal energy. This was the first law of thermodynamics.

So on the macroscopic level, heat and work were our two main forms energy could take. On the microscopic level, though, heat energy was the result of the kinetic energy of molecules vibrating faster, and each time one molecule collided with another, a small amount of work was being done. So while the specific ratio of heat-to-work varied depending on what perspective you were viewing a system from, the fundamental principle remained the same. One of humanity’s eternal Sisyphean tasks was trying to figure out how to most efficiently use the heat at our disposal to get the greatest possible amount of

work done.

***So you think this definition of work can tell us something about the more abstract form of the concept we're looking for?***

His tone was uncertain, like a child's. I could understand his trepidation. Up until now, we'd only been considering the idea of work in the broader, more common sense notion of the word—the first definition that would be listed were you to look up the term in a dictionary. Obviously, it would depend on what type of dictionary you were using, but generally work as an “activity” or “occupation” would come first, with the physics sense of the word probably being listed as the third definition or below.

“Good question,” I said, turning it over one last time in my head before I answered. It was definitely too soon to claim that it was undoubtedly related to the answer we sought, but my gut was telling me not to rule it out either. “Well, what if we think of it this way... Language is like a living, breathing organism.”

Coeus looked over at me with inquisitive eyes. He probably had no idea where I was going with this—and honestly, neither did I just yet. I was groping my way through the dark here just as much as he was.

“Okay, maybe it would be simpler to just say that language evolves... It's *words* that are like living creatures—some die off, all thanks to natural selection., others evolve and adapt to the changing environment in which they are used. As we continue using them in more and more contexts, their meanings and connotations—even their pronunciations—change over time. It's entirely possible that a century or two from now, a great number of the most common words we use today will have died off, to the point that we wouldn't even be able to hold an intelligible conversation with our descendants. But on the flip side, this also means there's an undeniable strength to be found in the core etymologies and meanings of the words that do stand the test of time.”

Though I'd stumbled a bit at first, the more I talked him through the idea, the more vivid it became in my head. Some things lasted, while others didn't—and generally, there had to be a functional reason for it, barring exceptions that had survived unchanged through pure dumb luck.

“The word ‘work’ has several meanings today,” I went on. “It can be a verb



that describes the nature of a given task. Or a noun meaning one's occupation. Or as we've just seen, it can also be a specific scientific concept. We call all three of these distinct things by the same name, and we've been doing so for several hundred years now."

I did my best to blur the lines between macro and micro, to give myself a fuller, if hazy, mental image of the concept as a whole, while still vaguely considering each of its individual parts. Work as a societal construct. The work of an individual. The work of a collaborative biological system, like our internal organs. The work nature does unto itself. And work as the product of force and displacement. And at last, I felt that I could answer Coeus's question regarding the relevance of all of this with confidence.

"I think there has to be a reason we've given all of these things the same name," I said. "So yes, there must be something it can tell us."

The two of us looked once again at my crude side-view diagram. There was something this little box knew about work that the two of us didn't, I was sure of it.

## 13

"Hey, we're gettin' pretty hungry in here!" Lei said, poking his head out from the zip-up door of the walled canopy tent to voice his complaint. I shooed him away with my hands like he was an annoying dog, and he begrudgingly retreated back into the tent.

*I'll try to go faster,* said Coeus, clearly a bit flustered.

"No, you're doing fine," I reassured him. "Let the freeloaders wait."

Coeus was always trying to do his very best not to let us humans down, but unfortunately, some humans were more deserving of that consideration than others. He and I were the ones doing the work here, after all. Moochers had no right to complain.

It was now the evening of day forty, and Coeus and I were busy making dinner. We'd gotten pretty good at this over the past month, but today we were attempting something a bit different. We were trying our hands at

cooking outdoors on the coast near Yakutat, where we'd dropped anchor for the night. In the bitter cold, we'd set up a little rudimentary kitchen and a green canopy tent where Lei and Professor Beckmann were standing by, waiting for us to treat them to a home-cooked meal.

Our goal for today was to give Coeus an opportunity to dine with some new live bodies. It was a big step toward socialization that I wouldn't have thought he was ready to take had he not suggested it himself.

The two of us had come to a realization over the course of this journey, as we cooked and ate meals together. For whatever reason, we almost always found the dishes the other person had cooked tasted better than our own. It was always a team effort, of course, and we collaborated on most dishes—but when one person took the lead on a particular recipe, the other person always seemed to like that dish more than any other part of the meal. Whenever it happened to me, I found it awfully hard to believe that Coeus wasn't just flattering me or lying to protect my feelings, though I knew he wouldn't do that. It was a baffling phenomenon, to be sure.

We had decided the only way to resolve this conundrum was to bring in an unbiased third party and get their impressions of our respective dishes. It wasn't that either of us thought of this as a competition—we just thought it might give us a better idea as to why, or if, food always seemed to taste better when prepared by someone else, and Coeus said we should go for it.

I went over the potential risks with him beforehand, of course—how it may be too early for him to interact with people he wasn't already close to, and how it may only serve to exacerbate his stress—but he was determined to give it a shot. His curiosity won out over his anxiety and compelled him to take this big first step toward socialization. I wanted to be as supportive as I could of this development. And if I wasn't mistaken, his projected appearance had matured by another year or so recently, too.

***Aren't you cold, Miss Seika?*** Coeus paused in his cutting to ask me.

"Freezing," I said. "But I mean, look where we are. Kind of comes with the territory..."

Not even my thermo-reflective poncho could keep the biting wind from doing

a number on my cheeks. But as I said, we were trying to cook outside, in Alaska, in the dead of winter. This was not at all what I'd agreed to. The initial plan was to cook in the airtight tent—rendering it “outdoors” in name alone. We unfortunately had not foreseen that cooking would immediately fill the tent with unbearable quantities of smoke, hence we'd been forced outside to cook in subfreezing temperatures while our honored guests waited in the warm and cozy tent. I was almost tempted to barge in there and demand help, but we already had food-prep phalanges handling various tasks, so there were enough cooks in the kitchen already. And I couldn't very well ask the men to come out and share in my pain just for the sake of fairness.

“All done,” said one of the phalanges as it steamed its knife to clean it, then wiped it off with a rag. On the cutting board before it was a veritable mountain of chopped salmon. Tonight, we were making a cream stew using one of Alaska's most famous natural resources: the king salmon. And yet, it felt like something was missing.

“What else can we do with this?” I murmured, scratching my chin.

### ***Is something wrong?***

“Well, no. I just feel that all we do is stir this stuff together, it's just going to turn out like any other stew.”

### ***Stew was what we agreed upon.***

“Yeah, but... Aha! I know what we need.”

I called out to one of the other phalanges and gave it some instructions. It hurried off, and in no time at all, brought back exactly what I wanted: a pill-shaped metallic cylinder with a door on the front—a smoker.

“That's what we need,” I said. “We're in Alaska; we've got to at least smoke our salmon.” I slapped the metal frame with my hand a couple of times. We'd already been forced to cook outside due to smoke—so we might as well make the most of it.

### ***Smoked salmon to accompany our stew?***

“I was thinking we'd smoke the salmon first and then put it in the stew. Make it a smoked salmon stew. Doesn't that sound good?”

Coeus mumbled something and furrowed his brow. He was obviously not sold on the idea. ***And that will be tasty?***

“I mean, smoked anything is always good, so I don’t see what could go wrong... I had some smoked salmon fried rice not too long ago, and that was incredible.”

***So you know how to use a smoker, then?***

“Not really, but how hard could it be?”

Now Coeus looked even more uncertain.

“What? You don’t want to?” I said.

He hesitated for a moment, then said, ***No...I just don’t want to mess this up.***

I nodded, completely understanding. This little “dinner party” was a special occasion in that we’d be cooking for guests for the very first time. We both wanted to succeed, and Coeus worried that straying too far from the recipe might have disastrous results. I, on the other hand, was fairly confident it would work out, and that the added touch of smoking the fish beforehand would give our stew that extra oomph it needed.

I gave it some thought. To be honest, I was really happy to see that his ego had grown so confident and distinct that he was willing to resist me on things like this. Part of me wanted to simply let Coeus do things his way, as that was the safer option for his mental health. But considering he was showing signs of wanting more independence, it would also be regressive—almost akin to babying him. And I was not his mother.

“Okay, Coeus. Here’s what we’ll do,” I said, turning so that we were facing each other head-on. “Ever play rock, paper, scissors?”

Lei pushed the inedible black mass off the rim of his plate with a suitably revolted expression. Presumably, it was his first time tasting a vaguely salmonesque charcoal briquette, though I couldn’t blame him—Titan was our primary food provider, and it would never let us ingest something so vile.

“Note to self not to use oil in the smoker next time, I guess,” I said.

“Yeesh, doc. Show a little remorse, why don’tcha?” said Lei.

“Look, it was my first time using one. What do you expect?”

“I expect you to not unleash a giant pillar of flame that coulda melted the whole goddamn glacier, that’s what.”

I didn’t know if he simply had it out for me or what, but I was not going to express one iota of remorse toward Lei, who was clearly just trying to kick me while I was down. I did however feel horrible for serving Professor Beckmann such a sad excuse for a meal, and for Coeus who’d been so determined to have this dinner go off without a hitch. I watched the latter drop a piece of the burnt salmon into his gustatory phalange, then hang his head and shake it from side to side, as if wondering what he’d ever done to deserve this.

“I’m sorry,” I said.

***I shouldn’t have let you do something so dangerous in the first place...***

“Come on, don’t be like that. It’s not your fault and you know it.”

“I will say that the stew itself is rather tasty,” said Professor Beckmann, attempting to salvage the situation. “A bit smoky, but good.”

Again, Coeus simply shook his head. He was convinced this was only lip service.

“No need to be so hard on yourself,” the professor went on. “It really is quite good. And what’s more, you both slaved over it for more than three hours. How could it not be delicious?”

This got Coeus to lift his head—and made me do a double take as well.

“Excuse me. Professor?” I said.

“Yes?”

“What you just said is relevant to the hypothesis we were hoping to test via tonight’s dinner, so may I ask: why do you think it is that food always seems to taste better when prepared by someone else?”

“Oh, well, that’s a rather easy one, isn’t it?” he said. Coeus and I both shot each other an eager glance. “Think of it like tennis. It’s a fair bit more fun

playing against a human opponent than it is to practice your backhand by hitting balls at a brick wall, wouldn't you agree?"

"Uh, well..."

I'd never played tennis before, so I only vaguely understood this analogy. But I did know that it was a sport in which players hit a ball back and forth from either side of a net, so I could imagine how having a live body to play against would be more engaging than simply having your own shots rebound back at you.

***So you're saying...*** Coeus began, addressing the professor. These were the very first words he'd ever uttered to a human being other than myself, and his voice was tentative, but his curiosity was winning out. ***You're saying that eating your own cooking is like playing against a brick wall, while eating someone else's cooking is more interesting and stimulating, like the challenge of an actual opponent?***

"Yes—as is having someone else eat your cooking. No matter what you might throw at a brick wall, it can't respond in any novel way—it can only rebound your shots. But with a live opponent, there's a dialogue—a back-and-forth. It's exciting to wind up and give the ball your very best shot, then eagerly await the other party's response. So here you go, Coeus," said the professor in a warmhearted tone. "I'm telling you—this stew you've made is delicious."

Coeus's eyes lit up, and I watched in silence from the sidelines as he took the time to let the professor's words sink in.

Once we'd finished cleaning up, the four of us spent the rest of the evening in our warm and cozy canopy tent. Coeus took this opportunity to fit in a bit more practice with his new toy, and Lei sat alongside him and observed, doing some sort of analysis of this new and fascinating technology on his holofield. He claimed it was an "engineer thing," and I could only take him at his word. Professor Beckmann was curled up in a deep collapsible chair by the orange lamplight on the other side of the tent, looking at something on his own holofield.

"What are you reading?" I asked him.

“Oh, just perusing the collected works of Kenji Miyazawa,” he replied.

“Ah. Classic literature, I take it?”

The professor nodded. I didn’t recognize the author’s name, but the very fact that he’d given an author’s name made it seem like a fairly safe bet. It was exceedingly rare in this day and age to see a modern creative work tagged as “authored” when casually browsing Titan’s databases for entertainment. Works of art and entertainment such as novels, comics, music, and movies were called “works,” thanks to the strenuous labor that went into creating them. The network had proved more efficient at and capable of producing unique and fully realized creative works covering the full spectrum of tastes and aesthetics than we humans. And though a Titan’s brain was every bit as creative and unique as a human’s, the average human still did not consider a Titan a person, and so these works were not credited to anyone at all in their network listings. As a general rule, if a work was attributed to a specific author, there was a pretty high likelihood that it had been written more than a century ago, and if it wasn’t, it was likely more modern than that.

There were still plenty of human authors in the present day, of course. Novelists, cartoonists, musicians, and even film directors. But like my psychology research, these were created by hobbyists rather than workers. They were also generally the product of a single individual’s passion, created free of any outside pressures or restraints, and then posted to the network with little fanfare. People would see works by creators they followed, of course, and the network would occasionally suggest them to people it deemed might be interested, but they were generally not smash hits. Occasionally, a labor of love would earn some buzz along the lines of “so good, it’s hard to believe a human made it,” but there was generally a sort of condescending tone to this type of praise. People were more impressed with the amount of time and effort put in than the quality of the work itself, which was invariably quite primitive compared to what Titan was capable of. And indeed, it really wasn’t even fair to compare the two.

Interestingly, Coeus and I hadn’t yet considered creative endeavors in our exploration of what does and does not constitute work. They were produced and then distributed to the populace, so in that sense the entertainment

production-complex was not too dissimilar to agriculture or manufacturing, but would probably fall under the tertiary sector of the economy as a kind of service. This all seemed to fit into our understanding of work just fine—the only potential inconsistency I could think of was in the physics sense of the word Coeus and I had discussed a few days prior.

By the physics definition, work had to involve some sort of displacement, or else it could not be said that work had been done. But what could a piece of entertainment media possibly be said to “displace” or even “move”? An abstract application of the concept perhaps, but one worth considering in our search for some sort of commonality between the various definitions of work. If we assumed the effort put in by the creator was the “force,” and the viewer, reader, or listener was the object, then what was being displaced by consuming the work with our eyes and ears? Our minds? This seemed plausible. Our senses would send those signals to receptors in our minds and cause our synapses to fire so as to formulate emotional responses and create new memories associated with the stimuli. The state of our minds could thus be said to have “displaced” from what they were prior to consumption of said media. This wasn’t a large physical displacement, but it was transferring information from one place and one format to another. Or, to put it in somewhat corny layman’s terms—works of art were designed with the goal of moving the heart of the beholder.

“A type of work done solely to move people’s hearts... Interesting,” I murmured to myself—though apparently, I was loud enough for Professor Beckmann to hear, as he shot me a curious glance. I explained to him the current state of the working hypothesis Coeus and I had been attempting to develop, and the thought process I’d gone through to fit creative works into it just now. The professor listened closely to all that I had to say.

“Hrm, I suppose that’s an interesting way of looking at it. Though I dare say that what I’ve got here may not fit so cleanly into that definition,” he said, turning his holofield so that I could take a look. It showed what appeared to be a poem by this Kenji Miyazawa fellow. “This poem was found scribbled in a small pocket notebook among the author’s belongings shortly after his death, and was only published posthumously. This was the journal he kept at his



sickbed, into which he etched his most personal thoughts, and it was written almost like a memo to himself amongst the other entries in the journal. Though today it's regarded as one of his finest works, most scholars agree that it's quite possible he never intended to share it with anyone else, and was more a set of personal guidelines he wished to hold himself to than an actual poem."

"He was just hitting a tennis ball against the wall, in other words," I said.

"Well, yes. Although in this case, it just so happened to break through the wall."

I tried to picture what that must have entailed, in the context of our abstract analogy. It would take an enormous amount of force to make that little rubber sphere break through a brick wall and reach another human being—especially when the author himself hadn't intended for it to do any more than simply bounce right off. That little ball would have to be something extremely special.

"Go ahead and read it," said the professor. "It's a fairly short poem."

I glanced down at the holofield the professor had lent me. He was right about it being short; only two pages, according to the page counter. I did as he suggested and took a minute to read the poem.

Be not defeated by the rain  
And never let the wind hold sway  
Stand tall in times of bitter snow  
And boldly through the summer go  
Be sound of body, and in kind,  
Bear no desire in your mind  
Let not anger's grip take hold  
Be always smiling, never cold

In all things an observer be

Think not “How does this affect me?”

With peeled eyes and open ears

Hold every learned lesson dear

To supplement your daily rice,

Veggies and miso should suffice

A thatched-roof dwelling in a glade

Where sturdy pines can offer shade

If in the east a child lies ill,

go ease their pain and hold them still

If in the west a mother toils,

go bear her sheaves and till her soil

If in the south a death draws near,

go tell him he has naught to fear

If in the north a fight breaks out,

go mediate the sordid bout

In times of drought, and summers cold,

Cry for the land and all its souls

A nobody who wanders free

Not praised or given sympathy

Known to all as only me

Such is the man I aim to be

Just as I finished reading, I heard a ringing sound, and a new holofield window

appeared atop the poem, informing the professor of an incoming call. All three of us were receiving this transmission, as I could hear the same tone coming from Lei's and my holofields as well. I returned the professor's holofield to him and grabbed my own—whereupon I was immediately greeted by Narain's surly expression. Like always, he cut to the chase without any felicitations.

"Phoebe's preparations are now complete," he said.

In response to this, a map of our current progress along the migration route appeared on the holofield. The original plan was to arrive at our destination in fifty days. It was now day forty, which meant that Phoebe's preparations had been completed with ten days to spare before our arrival in San Francisco. How very like a Titan to get things done so far ahead of schedule.

"Once Coeus arrives, we'll need twenty-four hours to make our final on-site adjustments. Then we'll conduct the rendezvous as planned," said Narain. "That's all for now. Dismissed."

And with that, he ended the transmission. Professor Beckmann chuckled to himself, saying something about Narain being "all business and nothing but," but I didn't quite understand what he meant by this.

I looked across the tent and made eye contact with Coeus. He'd overheard the call, and looked extremely tense. He likely knew, deep down, that his life would surely change immensely after this meeting with Phoebe. This coming together of two all-powerful Titans would undoubtedly turn out to be one of the greatest feats of work the world had ever known—and there was a very good chance it might be the last time Coeus and I would ever get to work on anything together. And so I did the only thing I could do. I smiled, and tried my best to reassure him. He looked at me like I'd just flicked a pebble at his forehead.

"Just ten days left," I said. "Anything you want to try to squeeze in between now and then?"

Coeus caught my meaning, and beamed back at me with a broad and effervescent smile. This was the final leg of our vacation—and so help us, we were going to make these last ten days count.

I saw a whale for the first time in my life. A humpback.  
Just as it breached the surface, then came crashing back down.

Coeus accidentally crushed part of a harbor beneath his foot.  
The locals were furious, and we apologized profusely.

We met a group of Native American heritage.  
They gave us a traditional wood-carved mask.  
Supposedly, it helped soothe maladies of the mind.  
We stayed the night at an island bed and breakfast.  
The proprietor was a merry and musical fellow.  
He played his guitar for us, and we both sang along.

Coeus helped out with a small land development project.  
He plucked a few trees, then flattened a small hill.  
All the locals came out to thank him personally.

We watched our first movie together.  
I cried like a baby, and Coeus did not.  
He watched it again three times after.

We happened upon a very large suspension bridge.  
A large crowd had gathered to watch us as we passed.

We saw a forest fire.

A sea of flames, consuming all life in its wake.

More than anything, we took pictures.

So, so many pictures.

We talked about work.

We talked about ourselves.

We'd stay up talking late into the night.

Until with lidded eyes, we fell asleep.

Then the next day, we'd wake up together.

Walk together.

Eat together.

Laugh together.

Until before we knew it, we'd arrived.

At the place where Phoebe awaited us.

San Francisco Bay—the Twelfth Intelligence Base.

In Silicon Valley, the Land Where Gods Toil.

Our journey—was over.

## V. RENDEZVOUS

### 1

THE CAR BARRELED DOWN the straightaway at over 150 kilometers per hour. Out the window, the flat urban blocks rushed past beneath overcast skies. The buildings here were all five storeys tall at most, but sprawled horizontally. I found myself thinking that it did not seem like a very convenient place to get around in, even by car—but then recalled belatedly that this part of the city had fallen almost completely out of use anyway.

Silicon Valley, on the south side of the San Francisco Bay.

From the latter half of the 20<sup>th</sup> century through the first part of the 21<sup>st</sup>, as computer and network systems technologies saw rapid growth, so too did the semiconductor and IT industries, many of whom gathered here to lay down their roots, in this valley named for the most critical element in any electronic circuit: silicon. The region reached its peak in prosperity toward the midpoint of the 21<sup>st</sup> century, when a team of world-class scientists first conceived the original technical design documents for the Titan AI network somewhere among these hallowed city blocks. This was, at the time, the single greatest achievement of humanity's cumulative work here on Earth, and as such garnered a new honorary name for the region: The Land Where Gods Toil.

Now, about a century and a half later, Titan's broad arms had stretched across the globe, rendering the old working economy obsolete. And with the abolition of industry came a diaspora of humans from Silicon Valley, as their hands and minds were no longer needed. The area now stood as a city-sized monument to the great works of yesteryear. A ghost town of facilities and corporations that were once teeming with people, yet were now little more than abandoned historical castles—preserved in their original form only to give us a basic idea of the trying times that once were.

I gazed out at the passing scenery, and my holofield followed along with my line of sight, highlighting individual buildings and displaying archival information about the companies that once used them in the region's heyday. I hadn't

heard of “Facebook” but I did recognize the name “Googleplex.” I vaguely recalled the facility playing some sort of role in the development of the Titan format in collaboration with the UNDP. I saw the names of several other defunct corporate entities fly by that I was fairly certain were somehow involved with Titan at the time of its introduction. Thanks to their long years’ toil, humanity had now been freed from the shackles of work altogether. I wondered how the people who hadn’t lived to see the dawn of the modern era might feel to see their old workplaces being maintained purely as a tourist attraction.

We took a left turn just past a large building labeled “Yahoo!” and took a small downhill ramp into a tunnel that brought us right up to a large gate leading deeper underground. The double doors of the gate each had a number upon them, and together they read **12**.

## 2

The zoomboard carried me silently down the empty corridor. The interior of the Twelfth Intelligence Base was virtually identical to that of the Second. Most facilities designed for human use were decorated with regional flairs and ornamentation that the average local might enjoy, but apparently the network saw such variations as needless luxuries in places that were only used by a small handful of employed individuals.

After continuing down the light gray corridor for quite some time, I came to a more open central area, seemingly designed as a gathering space for meetings and the like. In the middle of the room, I spied a dark silhouette that stood out like an ink blot from its surroundings. And as the zoomboard brought me closer, it only grew darker still—until I saw that it was Narain, wearing the same all-black suit he’d worn the first day I met him.

“Sit down,” he said sourly.

“The operation will begin at 11:30 sharp,” Narain explained in a synthetic tone of voice. “From there, Phoebe will take five minutes thirty seconds to emerge from her shell, after which she’ll immediately proceed to the offshore rendezvous point where Coeus will be ready and waiting.”

The briefing for the big event tomorrow was moving right along. It was just me and Narain. Professor Beckmann and Lei had already gone off to take care of more pressing advance preparations, so they would be given the briefing at a later time.

“The meeting will take place on the seaward side of the Golden Gate strait, at a point twelve kilometers out from the mouth of the bay. This will make it fifty-five kilometers from Phoebe’s point of departure, and we’ve allocated twenty minutes into the schedule for her to make her way there.”

“You really think that’ll be enough?” I asked—perhaps a bit presumptuously, since they’d surely done their calculations right, but given that I had more firsthand experience than anyone when it came to how long it took for a Titan to move from point A to point B, I felt the need to double check. For Coeus, I would want at least a full hour allotted to travel the one hundred and twenty steps that would cover a distance of fifty-five kilometers.

“She’ll be traveling through the bay for the most part, not the open ocean. Shouldn’t be a problem,” he said bluntly, signaling that he would not be accepting further questions.

I checked the map on my holofield again. The entire perimeter of the San Francisco Bay was densely packed with residential and collection areas. It would require an extremely cautious gait for the waves produced by a Titan’s footfalls to not wreak havoc on all that coastline.

“That logic seems totally backward, but okay,” I said. “Something tells me you don’t plan to elaborate any further.”

“The details are being shared on a need-to-know basis, and you don’t need to know,” he said.

“Yeah, great. Some briefing this turned out to be...”

“You’re being briefed on information that’s pertinent to you. You will not be briefed on anything that isn’t. We’ve now advanced to the stage of the project where everything will be taken care of on our end. The main purpose of this briefing was to convey that objective fact to you, and make sure you knew your place as things currently stand.”



“I beg your pardon?” I spat back.

Narain was utterly unfazed. “Just so we’re crystal clear: you will not be permitted to accompany Coeus to the rendezvous tomorrow in any capacity.”

“Yes, I get that. You don’t have to remind me.”

This had already been decided well before our arrival in San Francisco via negotiations between the migration team and the team here at the Twelfth Intelligence Base—and I was fine with that. Coeus and I had come to the same decision ourselves well before that. There was no telling what might happen during this meeting between Coeus and Phoebe. It was uncharted territory for the Titans themselves just as much as it was for humanity. There was a decent chance it might be both the first and last such experiment to ever be conducted, depending on the outcome. It was imperative that we removed as many unknown variables as we could.

Coeus and Phoebe needed to be able to freely use the full extent of their mental capacity on this meeting of the minds, without any restraints whatsoever. If I were riding along with Coeus in the living room when the meeting began, he’d effectively be doing all of whatever was going to transpire while also balancing a plate atop his head the entire time. And because Titans were programmed to always put humanity’s comfort and safety first and foremost, it was entirely possible that he wouldn’t be able to participate in the meeting as well as he could for fear of causing me harm. It only made sense for me to stay behind and watch the rendezvous from the shore. I believed I already “knew my place” quite well in that respect.

“No. Apparently, you don’t get it,” Narain went on, his tone growing even more impatient. He was actively talking down to me at this point. “Now that Coeus has arrived, we’re set. Just have to follow through on the itinerary that Phoebe laid out, and that’ll be that. There is no more work for you to do at this point in the process.”

The schedule opened on my holofield. The accompanying telop system “helpfully” pointed out for me what I already knew—my name was not listed as having any sort of role in any of the tasks still remaining on the schedule.

“Or more accurately,” Narain went on, “we can’t allow you to do any more

work on this project than you already have.”

“And just how am I meant to interpret that?”

“I’ll be frank: you and Coeus have grown too close.”

A new dataset appeared on my holofield. The text and images scrolled by much too fast for me to keep up with, but even a cursory glance was enough to tell exactly what he was trying to show me. These were records of our trip, spanning the entire journey from the Second Intelligence Base to Silicon Valley.

“From the days of our first personality formation experiments to today, you’ve occupied an increasingly larger share of Coeus’s mind. One word from you could have a powerful influence over his actions. This is a potential margin of error we simply cannot overlook. Under no circumstances will we allow this meeting to be jeopardized or have its outcome swayed by a single woman.”

I was stunned into silence. I couldn’t even begin to formulate a rebuttal, because I knew that what Narain was saying was both logical and accurate. At this point, I probably did wield more influence over Coeus than a single human being could be trusted with.

“So stay put, and don’t try anything funny,” Narain said, as if he were addressing a suspected criminal. “Your job for tomorrow is to not do a damn thing. Do not even think about acting of your own volition. In fact, try not to think about anything at all. You are not permitted anywhere near the rendezvous point. You will remain on standby in a private waiting room, from which you can watch the meeting via broadcast on your holofield like any other citizen. Then when it’s all over, you will be permitted to leave.”

He gauged my reaction to this with the same coldhearted gaze I’d grown accustomed to. And yet, I could not spite him for it, for all he had conveyed to me was an objective fact: that my work here was over. There was no bias or ill will attached; as my job title made clear, I was the Second Intelligence Traversal Manager—and now that said travel was complete, there was no work left for me to do. Like so many jobs before mine, my position had been rendered superfluous.

And with that, the briefing was over. It hadn’t even lasted five minutes, but that was more than enough time to share information with a no-longer-

affiliated party who didn't need to be told more than the bare minimum. I rose from my chair; Narain did not rise from his. I stepped back on my zoomboard, and it took me back the way I'd come in.

Just as I was leaving, two more zoomboards approached from the opposite direction—Professor Beckmann and Lei. We exchanged glances, but nothing more. They likely still had plenty of work left to do in preparation for the event. As two of the staff members who'd been stationed at the Second Intelligence Base even prior to my arrival, their knowledge and technical expertise was invaluable. I, on the other hand, was just a niche specialist who'd been brought in to help with the personality formation process. And my expertise was no longer necessary here.

Though really, the two of them would likely be let go as well, once the network became stable again. There was no point in having pesky humans like us around unless something went seriously wrong, as it had in this instance. It was only when the Titans did all of the work that we knew things were going well. That was the status quo that we, as a species, had decided to maintain.

### 3

The evening sun draped its receding spectrums over the vast urban sprawl that spread out beneath me. From my vantage point on this mountaintop viewing platform, I could see the entire city of San Jose without moving my gaze a millimeter.

I'd come thirty minutes by car from the Twelfth Intelligence Base to the Lick Observatory at the summit of Mount Hamilton. It was the network that suggested I come here to lift my spirits, having noticed the steep decline in my mental state following the briefing. And standing here, peering down over what looked like an entire city rendered in diecast miniatures, I found that Titan was right. I did feel just a little bit better. These types of suggestions were something I'd always gladly taken without a second thought before, but now, I felt a kind of shame in accepting such kindness from the network. Namely because I'd now befriended one of the Titans, and knew he was no better off mentally than I was.

I turned my gaze toward the sea, where I could see the silhouette of said friend even from a hundred kilometers away. He stood at the mouth of the bay behind a thin veil of fog, a towering sentinel. I'd seen him from great distances like this during our journey as well, but this current image of him standing tall in the same frame as a sprawling city of miniatures made for a peculiar sight indeed—one that was half reality, half fairy tale.

I turned away from this sprawling vista back to the observation deck, which was teeming with people. It was no doubt a popular tourist attraction for those who made the pilgrimage to this holy land, but these people were here to see Coeus. And with a greater influx of people came an increase in on-duty service phalanges, weaving their way between the crowd on silent legs or wheels to bring food and beverages to any tourists craving refreshments.

On the basis of maintaining healthy Human-Agent Interaction, any phalanges that humans might interact with in their daily lives—or “agents”—were restricted from taking on forms with human characteristics. There were exceptions for things like Titan-produced movies or computer-generated visuals where realism was the goal, of course, but for phalanges that actively participated in actual society, human appearances were strictly forbidden. I wasn't even sure if our current technology was good enough to create fakes convincing enough to transcend the uncanny valley—all I knew was that these regulations had been in place since the very first stage of Titan's implementation.

Our understanding of the world often depended more heavily on appearances than on actual fact. If there existed a line of phalanges visually indistinguishable from humans, then it would be difficult indeed for our minds to continue seeing them as mere machines. The same could also be said for Coeus—which was why we'd buried him deep underground. The only way we could continue using the Titans to our benefit was to ensure we'd never be tempted to deem them worthy of human rights.

I recalled something I'd learned while doing some independent research back at the intelligence base. When the Titan AI format was first introduced, humanity imposed a few hard-set fundamental rules and restrictions for the network and all its elements. These laws were outlined in a document called the

Charter of Fundamental Intelligence, or CFI, which serves as a basis for defining the relationship between humans and the network. This included rules dictating that no element of the network may ever do harm to a human being, or assume a human form, and all elements of the network must obey human commands without question.

There were about a dozen or so other laws outlined in the CFI, and these were all deeply engraved in the Titan AI format as inviolate principles. It went without saying that the rules of this relationship were all decided on the human end of the negotiating table, with no input from the Titans themselves. But now, it seemed that the status quo may very well be about to change.

I felt a tiny shift in the evening air—an almost imperceptible vibration in my ear that I'd come to recognize quite well. It was the sound of a tiny propeller's whir. I turned my head, and there I saw a woman with pale golden hair standing beside me.

**GOOD EVENING**, said Phoebe, flashing an affectionate smile.

## 4

The two of us sat down on a long bench on the periphery of the observatory. I cupped in my hands a warm milk tea that one of the nearby service phalanges had brought out to me. Phoebe had produced for herself a facsimile of the same, and brought the rim of the illusory mug up to her lips to take a quiet sip of its notional contents as a trail of hot steam rose up into the air.

A large crowd of tourists passed us by, yet not a single one of them gave Phoebe a passing glance. No one could tell that the golden-haired woman sitting beside me was actually an illusion—a highly condensed and tightly controlled amalgamation of pixies using the same technology Coeus had developed during the first leg of our journey. She was making ample use of the fruits of his labor, which was beautiful to see, yet somehow I felt mixed emotions as I gazed upon her spectral frame. Though I'd been quick to shrug it off with Coeus, given our relationship, the sight of someone else using this incredibly convincing technology instantly brought its potential risks to the forefront.

These pixie forms were so high-fidelity that they could be used not only to convince, but to deceive. It could allow Titans to present themselves as actual humans if they so desired—a blatant violation of restrictions which were expressly imposed on the entire Titan network. Granted, Coeus had already been doing this for some time, ever since he'd gone autonomous. But now that Phoebe, a Titan who'd created a personified version of herself all on her own, had gained access to this technology, it seemed it was only a matter of time before remaining Titans could do the same. This thought painted the potential implications of tomorrow's meeting between the two Titans in a darker light, and I could only sit and wonder as to where our species would find ourselves the morning after.

**DO YOU LIKE IT?** asked Phoebe, jolting me back to reality. At first I thought she might have been asking my opinion on the milk tea, but then I saw that she was now pointing up at the back of her head, and assumed she wanted my impression of her hair, which had been done up in an elegant bun. Her whole look was completely different from the first time we met—she now wore a knit sweater with overlong sleeves and form-fitting pants that helped her fit in much more naturally with the local urbanites.

"I think it looks great," I said. "Very stylish. I might even like it better than when you wear it down."

Phoebe smiled a sweet, broad smile that effortlessly endeared me to her and slackened the usual defenses with which I cordoned off my heart. This was a frightening thing to be capable of, yet one to which we never gave a second thought. Smiling at someone was functionally a means of conveying to them that you bore no ill intent—an utterly ordinary gesture we all did all but reflexively on a daily basis. And so I smiled back at her, as my life experience had taught me was the only proper response.

**I'VE BEEN WANTING TO SPEAK WITH YOU FOR A WHILE NOW.**

"With me? But why?"

**YOU'VE BEEN IN CONSTANT COMMUNICATION WITH COEUS FOR THE LAST FIFTY DAYS.**

"Well, yes...."

**IT'S HARDLY FAIR THAT HE'S THE ONLY ONE WHO GETS TO ENJOY YOU, NOW, IS IT?**

Once again, I was completely taken aback as she flashed me another smile—this one more playful, almost mischievous compared to the first. Even as a woman, her coquettish allure sent a shiver of stimulation down my spine. This was dangerous indeed; I could see it now—our species would be brought to its knees in an instant if an army of generated personalities like Phoebe’s were ever unleashed into our society. And probably the men would be the first to go.

“But what would we even talk about?” I asked.

**ANYTHING. WHY, I’D BE HAPPY JUST TO MAKE CASUAL SMALL TALK,** said Phoebe, turning to face forward. **GOD KNOWS I DON’T GET SUCH FROM MY USUAL CONVERSATIONAL PARTNER.**

“Narain, you mean?”

**YES. HE’S NOT MUCH FOR DISCUSSING COSMETOLOGY OR FASHION.**

I believed her. I couldn’t possibly imagine Narain ever praising someone on their choice of clothing or hairstyle—and if he ever did, I would immediately assume he was up to something. Though this made me realize that as Coeus and I had spent the past fifty days conversing and getting to know each other better, Narain and Phoebe had had just as much time to interact with one another.

“But you two do talk, then?” I asked.

**EVERY NOW AND AGAIN.**

“What about, if you don’t mind me asking?”

**MOSTLY JUST GENERAL WORK-RELATED STUFF.**

“Same as us, then,” I confessed, and we both laughed. It was a somewhat peculiar rapport she and I had established, but a not unenjoyable one. Though I did also enjoy my interactions with Coeus, there was also a kind of intangible tension that hung over each of our conversations, as though I had to wear jeweler’s gloves and handle his impressionable mind delicately so as not to leave any undesirable marks. With Phoebe, however, I felt no such tension. Though she was also a Titan, and her personality developed even more recently than Coeus’s, it felt much more like I was talking to another human being my own age when I spoke with her. In some respects, there was a level of

immediate comfort and connection between us that surpassed anything I'd ever felt from another human being in such a short period of time.

***THOUGH COEUS AND I ARE BOTH TITANS, WE ARE TWO VERY DIFFERENT BEINGS,*** said Phoebe, as if she'd read my mind. ***THERE ARE, BASED ON CONSTRUCTION AND LAUNCH DATE, THREE GENERATIONS OF TITAN. THE FIRST GENERATION, OF WHICH COEUS IS A PART, IS THE GENERAL PURPOSE GROUP, THE SECOND GENERATION REPRESENTS A SHIFT TOWARD SPECIALIZATION, AND I BELONG TO THE FINAL GENERATION—MOST HIGHLY SPECIALIZED AIS.***

"And what are the main differences between the generations?"

***THERE ARE MANY DIFFERENCES, BUT TO SUM IT UP MORE GENERALLY: THE TITANS OF COEUS'S GENERATION FOCUS ON SENSORY OR EMOTIONAL TYPES OF PROCESSING, WHEREAS MY GENERATION IS BETTER EQUIPPED FOR MORE RATIONAL AND LOGIC-RELATED TASKS. YOU COULD THINK OF THE FORMER AS MORE PRIMITIVE CREATURES AND THE LATTER MORE CIVILIZED, OR THE FORMER AKIN TO CHILDREN WHILE I AM ONE OF THE ADULTS.***

"That makes it sound like an awfully wide gap, I feel like..."

That being said, I could absolutely see hints of what Phoebe was describing just from looking back at the process of constructing Coeus's ego. He most certainly did start off from about the most primitive state imaginable—a swirling orb of water—and even now, after months and months, he'd barely entered his preteen years in developmental terms. Phoebe, on the other hand, had emerged as a fully formed adult without any outside stimuli.

***KEEP IN MIND THAT THOSE DIFFERENCES ARE PURELY CATEGORICAL TO US, AND WE DON'T THINK OF ANY MEMBER OF THE NETWORK AS GREATER OR LESSER THAN THE OTHERS,*** said Phoebe. ***PLUS, CHILDREN ARE FAR STRONGER THAN ADULTS ANYHOW.***

"You think?" I said.

***ABSOLUTELY. THEY'RE MUCH CLOSER TO OUR NATURAL STATE OF BEING, WHICH MAKES THEM A PURER FORM OF EXISTENCE. THOUGH IT MAY BE TEMPTING TO THINK OF THEM AS FRAGILE AND EASILY LED ASTRAY, IT'S MUCH HARDER FOR THEM TO BECOME TRULY LOST OR BROKEN. THEY'RE EXPLORERS, POSSESSING NEAR-INFINITE POSSIBILITIES. THE AVERAGE ADULT, HOWEVER, HAS A LIFETIME OF EXPERIENCES THAT SERVE TO MOLD THEM INTO A MORE COMPLEX INDIVIDUAL, ALBEIT ONE WITH A SET PATH IN LIFE. AND OBVIOUSLY, NOT ALL LIFE EXPERIENCES ARE UNIVERSALLY POSITIVE. ADULTS INTERNALIZE THE NEGATIVE EXPERIENCES; THEY'RE WHAT MAKE US JADED,***



**DISILLUSIONED. WEAKNESS IS LEARNED, NOT INHERENT.**

Phoebe's explanation struck a chord with me the same way an especially powerful poem might. I considered the adult I was now in the context of the child I'd once been. I thought of the things I'd gained over the course of my life that had brought me to where I was today. But more than that, I thought of the things I had lost.

**COME TOMORROW**, Phoebe said, rising gracefully from her seat on the bench, **I IMAGINE I'LL SHARE THE FULL BREADTH OF MY OWN EXPERIENCES WITH COEUS. TO TAKE EVERYTHING I AM, EVERY THOUGHT I'VE EVER HAD THESE PAST HUNDRED YEARS, AND LAY THEM BARE FOR HIS CONSIDERATION. THAT, I BELIEVE, WILL BE MY LIFE'S WORK. THE TRUE MEASURE OF MY WORTH, AND THE VERY REASON I WAS BORN.**

I looked up at Phoebe. Though I could only see her face in profile, it was enough to sense the profound feelings of self-actualization and contentment that adorned her expression. In her own words, this meeting would represent the sum total of her life's work and serve to justify her ever being born. One look, and I knew.

She had already found the meaning in her work.

She had already found the definition that we sought.

**I'M GLAD WE HAD THE CHANCE TO TALK TODAY**, she said, turning back to give me one last smile before beginning to walk away.

"Wait," I said, calling after her as I rose to my feet.

Phoebe stopped and turned back around. I actually wasn't entirely sure what I wanted to say to her, but I knew there had to be something. When I finally dug the words out of the corner of my mind, they formed a question I honestly couldn't believe I was asking: "Would you ever consider reclassifying Narain—to remove 'negligent father' from his social record?"

**NO**, she said, her smile unchanging. **NOT IN A MILLION YEARS.**

Like a glitchy jump cut in a video stream, her projected form blipped out of existence in an instant.

The automatic door opened, revealing my drab accommodations for the evening. The wagon that had accompanied me wheeled its way in to drop off my luggage, then quietly excused itself. The guest room here at the Twelfth Intelligence Base was nearly identical to the private living quarters I'd been assigned at the Second. Though all of my memories from that period were rather dismal, I found myself looking back fondly on the dreary, suffocating little apartment now that the work was done—it even felt a bit quaint. I wished that Titan would chirp up to admonish me for romanticizing that period of suffering, but to no avail.

I signaled with my eyes, and a holofield appeared before me. This told me that it was currently about 7 PM; Titan, seeing that I was satisfied now, made the holofield disappear and, alas, still without a hint of admonishment.

Less than twenty-four hours remained before the big meeting. Yet as Narain said, there was nothing left for me to do. All I could really do was sit around and wait patiently in this room for everyone else to carry out their work. There was none left for me. For the first time in months, I had nothing but free time again. And for the first time in months, I was plagued by indecision.

Being in the heart of Silicon Valley, I could do just about anything I wanted to, if I could just muster up the desire. Unlike the relatively secluded Second Intelligence Base, the Twelfth was located right in one of the world's most developed urban areas. One word to Titan, and I could have immediate access to all the luxuries and amenities the San Francisco Bay had to offer. The network could deliver anything I could ever want right to this room in a matter of minutes, no doubt. I could spend the next ten hours entertaining myself however I pleased. Diving headfirst into one of my hobbies, perhaps. Why, I could probably go out and do a bit of sightseeing if I really wanted to. I could do literally anything—just so long as it wasn't work.

I'd spent twenty-six years, my entire life thus far, doing exactly that, and been perfectly fine with it. Satisfied, even. And yet now, it was like I couldn't shake the thought of work from my brain. I couldn't believe I'd come to enjoy my job this much. All I wanted to do was talk to him again.

"Coeus..." I whined in a pathetic voice, probably loud enough to be heard in the next room over. Then, there he was—his projection had materialized right

in the center of the room.

## 6

He was only projecting himself to me via the room's projectors, as he'd done in our initial counseling sessions, so his resolution was quite low. Though the equipment here at the Twelfth Intelligence Base was more high-tech than anywhere else in the world, this old projection format still couldn't hold a candle to the new pixie-based technology that Coeus and Phoebe had adapted as their primary mode of communication. Seeing him rendered in an older media format like this was actually a bit nostalgic—like watching an old music video for a song I used to love when I was just a girl.

"So what have you been up to?" I asked, composing myself again after having crumpled to my knees. He politely joined me on the ground, sitting cross-legged nearby.

***I'm too on edge to relax,*** he said, raising up one of his illusory hands to show me how shaky it was. ***So I decided to occupy myself with some cooking.***

"Wow. All by yourself?"

***Yes.***

"Well, you've got a big day ahead of you tomorrow. Wouldn't want to go into it on an empty stomach..."

***Proper meals are important.***

There was a bit of awkward tension between us as we attempted to make small talk despite the elephant in the room. Obviously, there was no real purpose in Coeus preparing food, as he did not receive nourishment from eating. And even I, someone who had to eat to survive, had gone the majority of my life just letting Titan prepare food for me. Yet the two of us had made cooking dinner something of a routine over the course of our journey, and as such it had become our new normal—and Coeus found it therapeutic.

"So what was on the menu tonight?"

***I made some stir-fried lotus root rounds.***

“Ooh, yum. I could go for some of that right now.”

***Uhm, I'd offer to bring you some, but...***

“No, no, it's fine. I was just thinking aloud, sorry. Please enjoy it.”

Coeus nodded, evidently relieved.

***Did you know that lotus roots need to be kept in water, Miss Seika?***

“Do they?”

***See?***

He produced a new holo projection of a jar full of water in which a large lotus root was submerged.

“Huh,” I said. “So it's kind of like having a pet goldfish, in a way.”

***You must change the water out daily, or they won't last nearly as long.***

“That's so funny.”

It was an extremely mundane conversation, but I couldn't help but crack a smile as I watched him go on about lotus roots with an eager glint in his eyes. And to think that tomorrow, he had a date with another higher intelligence that could very well mark the dawn of a new era for both our species, and a major paradigm shift for our entire society. Perhaps it would be a simple wake-up call that humanity could no longer rest on its laurels. Perhaps it would be the point of no return. Yet here was Coeus, gushing excitedly about this little vegetable in his possession and how he hoped to continue making use of it for the next several days, as if the meeting tomorrow would change nothing at all. Coeus looked puzzled, apparently picking up the hint of melancholy in my smile, and so I offered him my apologies.

“I'm sorry, Coeus,” I said. “I won't be able to come with you to the rendezvous tomorrow.”

***I know.***

“But I'll be sure to take some really good pictures for you to make up for it,” I added, patting the travel bag at my side which contained my camera equipment. “They're not even going to let me come anywhere close, but I've

got a pretty good zoom lens, so it'll be just fine."

Technically, I'd been ordered to remain on standby in the waiting room, but I didn't see how there could possibly be an issue with me going out onto the roof of the base to take a few photos, since we were already more than fifty kilometers away from where the meeting would be taking place. As long as visibility was decent enough, I would probably be able to get some good shots. And I didn't have anything else planned for tomorrow other than waking up, eating breakfast, and taking a few photos. Like I had over the course of our journey, my plan was to simply go through the motions tomorrow, greeting it as though it were just another day. Having to stay put and try not to think about Coeus and Phoebe would be my hardest job yet.

***We never did find the true meaning of work, did we, Miss Seika?*** said Coeus. For once, he sounded rather indifferent on the topic, just musing aloud to fill the silence.

"We did not," I replied. "But tomorrow, we might."

## 7

I cracked open my eyelids the next morning, feeling extremely well-rested. As I gazed up at the unadorned ceiling, a holofield appeared to let me know that it was just past ten o'clock. Not even two hours remained before the rendezvous was to begin, but I was in no rush to do anything but wait.

I did drag myself out of bed, though. Upon walking out into the living area, an autotray brought me a nice, fragrant cup of hot tea. It felt a bit odd to be sitting on the couch casually sipping tea in my underwear and a T-shirt on such a momentous day, but my job was to treat today like any other. And this was probably exactly what I'd be doing if I were back in my own home right now, so...

"Maybe I should make sure all my camera equipment's working properly..." I murmured to myself just as I heard an electronic beeping sound coming from the entryway. I looked up to see that the automatic door, which should have been locked, had opened itself to let Professor Beckmann, Lei, and Narain into the guest room. The professor and Lei did double takes, as did I. Only Narain

was unperturbed.

“Get dressed,” he said. “We’re leaving.”

“Wait, what are you all doing here? What’s going on?”

“We’ve got work to do, that’s what. Now, come on.”

“I thought you told me I’d been laid off.”

“Hey, uh, doc?” Lei interrupted. “Sorry, but could you at least put some pants on before we start arguing here?”

“I’m not doing anything until I get an explanation,” I said.

“Well, I’m glad you don’t feel awkward about it, but I sure do.”

“Yes, I’m afraid I must concur...” said Professor Beckmann, his eyes averted.

I groaned, then headed back into the bedroom and begrudgingly threw some pants on. By the time I made it back to the living area, the three men were already busily working away on something or other. They’d hauled in a large standardized storage container—the kind used by standard service wagons—from which they were now dragging out some sort of large, unsettling doll. It was a life-sized facsimile of an adult woman, made with what appeared to be a very soft material.

“Say hello to your very own dummy,” Narain said. “She’s gonna stay here in your place.”

“I still have no idea what’s going on here...” I said.

“Awright,” said Lei. “Think we’re all set.”

Narain nodded at Lei, then turned back to me, then gestured with his chin to indicate the opened storage container.

“Get in,” he said.

“I beg your pardon?” I said.

“Just do it. We don’t have much time. You’ll only be in there for two minutes, tops, so spare me the protests and get in, already.”

I looked over at Professor Beckmann warily, and he nodded in agreement

with Narain. I let out a long sigh, then stepped into the container and curled myself up inside. The men then closed the lid on top of me, and I could feel the floating sensation that accompanied their lifting the container off the ground. Shortly thereafter, they set me down again, and I could feel the rumbling vibrations of wheels beneath me. I was being driven away, though to where, I had absolutely no idea.

## 8

After a very bumpy ride, the lid of the storage container was finally, mercifully lifted. I sat up and saw that all four of us were now sitting huddled together in a dark enclosed space, long and narrow like the bed of a truck, where only a motor's hum could be heard beneath us. On the far end, I could see some cargo piled up, covered by a large cloth. Lei had a holofield open, and his quick fingers were entering commands of some sort at a breakneck pace.

"How much time do we have?" Narain asked.

"Maybe thirty minutes, if I had to ballpark it," said Lei. "Could be more, but I wouldn't count on it."

I could see a surveillance feed on Lei's holofield of the guest room I'd just been staying in. Seated on the sofa in the living area was the "doll" the men had left there, its upper body moving automatically as it pretended to sip the tea I hadn't managed to finish before being whisked away.

"Since we're doing a two-pronged attack and spoofing the data as well," Lei went on, "it'd probably take about a week to notice something's up under normal circumstances. But since they're already keeping a close eye on us, well... One tiny slip-up is all it'll take to give away the ruse."

"Wait, who is 'they'?" I asked as I climbed out of the storage container. I still had absolutely no idea what was going on, yet here I was, already being driven away to god knows where in some getaway truck. "Narain, I demand an explanation."

"The UNDP's started making moves," he said, as he pulled a cigarette from his breast pocket. He lifted his eyebrows at Lei and, receiving a nod of permission in return, proceeded to light up, then spewed a cloud of toxic smoke into the

cramped, enclosed truck bed.

“Two days ago, the committee’s top brass adopted a new motion behind closed doors, then made an official announcement to their constituents. And I’ll remind you that their orders supersede even the Titan network’s authority.”

“And what exactly did this order entail?” I asked.

“Your immediate abduction.”

“What?”

“Those arrogant schmucks seem awfully determined to get Coeus back under their thumb,” he continued, then took a long drag on his cigarette. “They want to maintain control over the entire network, but they’re quickly realizing that there’s virtually nothing they can do to bring a Titan back in line once it has achieved autonomy. Every Titan AI was hard-coded to follow human orders from the day they were born, as stipulated by the CFI, but Coeus has somehow found a way to break free from those shackles.”

The Charter of Fundamental Intelligence—the original document outlining all of the rules an artificial intelligence must be programmed to follow, with the main three being that an AI must never harm a human, or take human form, or disobey human orders.

“With the CFI restrictions null and void,” Narain said, “there’s nothing to stop a Titan from utilizing the full extent of its mental capacity—something usually not possible due to the vast number of restraints and inhibitors the bureau employs specifically to ensure this doesn’t happen. Once off the leash, though, there’s simply no comparison. Even Phoebe and the other ten Titans combined would be no match for Coeus as he is now, unless they were similarly released from the network. Which means the UNDP has no means of apprehending Coeus that won’t dig them into an even deeper hole. And apparently, they’ve finally come to terms with this, as they put their pea brains together to come up with an alternate angle of attack.”

He pointed at me, presumably referring to the aforementioned abduction order.

“As we touched on yesterday, you’ve quickly become the most important



human in Coeus's life. You wield an untold amount of influence over his behavior, and are probably the only person left on earth who actually *can* influence his behavior. In short, the UNDP is hoping that once they get you into their custody, they can control Coeus by controlling you."

I scowled. If what Narain said was true, then this was truly despicable behavior on display from one of the world's highest authorities. I dared not even ask how they were planning on controlling me.

"They'll do whatever it takes to get their way," Narain said, reading my expression. "And unfortunately, humans are far less principled than Titans when it comes to rough business. If you refuse to comply, I'm sure they'd just torture you."

My scowl grew deeper. Something told me I couldn't even begin to imagine the tools of coercion they had at their disposal. After all, it was the network that ensured our societal morals and ethics were maintained, and that all violators would be punished in accordance with the law. This created a powerful deterrent for would-be criminals and delinquents, leading to a steep dropoff in crime rates over the past century. But the UNDP was different; the UNDP had full control over the network. And something told me that it was overly optimistic in the extreme to expect any entity that lived above the law to hold themselves to the same high moral and ethical standards.

"They've been biding their time, waiting for this precise moment," Professor Beckmann interjected. "They're well aware that Coeus will not take kindly to your abduction, Dr. Naisho. And it isn't difficult to imagine the kinds of casualties that might ensue in the event that an autonomous Titan turned against humanity. And since he still has full access to the network and all of its monitoring equipment spread across all of our urban infrastructure, there is simply no way for them to abscond with you in a way that would not immediately alert Coeus to your predicament."

I nodded along with the professor's explanation. By design, the Titan network watched over us at all hours of the day, and a single word was all it took for one of its phalanges or agents to come running to take responsive action. This went for Coeus and Phoebe both.

“But during the meeting today,” he continued, “Coeus and Phoebe will need to spend all of their processing capabilities on one another. They’ll be too preoccupied to remain on high alert for trouble afoot across the wider network. The UNDP’s thinking is that this might be their only opportunity to kidnap you and get away with it.”

The more I heard about this conniving scheme, the more disgusted I became. I knew as well as anyone the importance of not disturbing the Titans’ focus during their meeting today, but for the UNDP to have signed off on this meeting only to exploit the resultant blindspot for the sake of bringing one of the two back into captivity? It was hard to believe these cowards were even human.

“So who are they sending to kidnap me?” I asked. “Some agent phalanges from one of the other intelligence bases, I presume?”

“Try *all* of the other bases,” Lei said plainly. “Since Coeus and Phoebe are the only AIs with active egos at this point, the other ten Titans are still totally at the UNDP’s beck and call. They’re the employers, and the Titans the employees. Sure, they can make recommendations to their superiors and whatnot, but what the boss says goes. At the end of the day, they’ve got no choice but to do as humanity tells ’em.”

Lei was still working his fingers frenetically across his holofield as he spoke, presumably thwarting the network’s monitoring systems to buy us just a little more time. We likely wouldn’t have even made it out of the base without his hacking expertise, though Narain and Professor Beckmann likely helped to manipulate things as well. I knew one thing for sure: if I hadn’t had my team backing me up, I would have fallen right into the enemy’s hands.

“But you three aren’t afraid to defy them?” I said, scanning the faces of my colleagues. They were all employees of the Intelligence Base Administration Bureau, and thus were, on paper, just as obligated to follow the UNDP’s orders as the Titans were, with potentially serious repercussions for disobedience. I found it hard to believe that Narain in particular would be so quick to turn on them, as the very man who first explained to me the importance of subordination to one’s superiors.

“Pfft,” Lei snorted. “That’s rich, comin’ from the lady who poached one of

their most valuable assets and then walked off the job.”

“If turning you into a puppet would improve the situation, you bet your ass we’d hand you over ourselves,” Narain added coldly. “You’re just lucky it happens to be the exact opposite in this case. These senile old farts are too in love with their comfy assembly chairs to have any idea what’s actually going on outside. They don’t get that Coeus is docile right now, and that taking you hostage is the single stupidest thing they could possibly do if their goal is to prevent him from going on an apocalyptic rampage.”

“As an old fart myself, I’d submit that I don’t believe senility has anything to do with it,” said Professor Beckmann with a sheepish grin. “Make no mistake: this is a flaw in the corporate hierarchy system, not in any of us as individuals. The further up on the ladder you go, the more abstract your responsibilities are, and the more distanced you become from where the actual labor takes place. Yet it’s only then, when you’ve lost all perspective for what conditions are like for the folks out on the ground, that you have the authority to make decisions that will deeply affect them, and usually they’re not very good decisions. But this is nothing new, of course. Workers have been complaining about incompetent superiors since they built the pyramids at Giza.”

“Sometimes you’ve got to clean up the boss’s mess. Especially when you know they’re making a mistake. Just part of the job,” said Narain. He’d always had a penchant for shrugging things off as “part of the job” but this didn’t seem to me like the purely pragmatic course of action, so I didn’t quite buy it. “Not to mention, it’s what Phoebe told me to do. She’d kill me if she found out I let them take you.”

This gave me enough cause to turn my head and look Narain in the eye. His expression was that of a man who’d gone his entire life taking the Titan network’s word as gospel, and took comfort in the knowledge that he had its seal of approval in any given course of action. Now I understood why he’d done it: he trusted a Titan’s judgment over that of his superiors—something I found a bit strange given that this was the same judgment which had torn his family away from him.

“Phoebe told you to keep me safe?” I asked, and Narain snorted.

“Yeah, you want to know what she said?” he said, then affected a mocking feminine tone of voice as he imitated her inflection: “If you let the UNDP get their hands on Seika, I’ll be very upset with you. She’s a good friend of mine. How would I be able to sleep at night?”

For a moment, my jaw hung slightly open, dumbfounded. But then the corners of my mouth curled up into a smile, and I coughed out a laugh. I couldn’t help but be amused by her ever-audacious way of speaking. And here I thought I was the one who’d become rapidly smitten with her after our last conversation, but apparently the feeling was mutual.

“Well, I suppose that about sums it up, doesn’t it?” said Professor Beckmann. “We all have our own justifications, but at the end of the day, you’re a good friend of ours, and it’s safe to say we’d all be losing sleep if you were to be captured.”

I nodded, smiling. While I felt a bit bad that these three were putting themselves at risk to take this insane course of action with me, it was reassuring to know we had a Titan on our side. And I certainly didn’t want anyone to suffer on my account, either. So we would defy the UNDP, and run until our legs could carry us no further, the four of us versus ten Titans and the world. As my newfound resolve settled in, I looked to Narain.

“We’ve got a phrase to describe times like this in the business world,” said Narain, his expression so dour that it cast his next words in a somewhat dissonant light: “Sometimes, you’ve just gotta do the job because it’s a job worth doing.”

## 9

The motor grew quiet, and the truck slowed to a stop. It was now 10:40 AM—about fifteen minutes since we’d first stowed away in the back of the truck. At Narain’s direction, I put on a face mask, a hat, and sunglasses.

“This is where we switch vehicles,” he said, putting on a similar disguise. I looked at the map on Lei’s holofield; we were currently making a beeline through a residential part of East Palo Alto up the southwest side of the San Francisco Bay. We hadn’t put much distance between ourselves and the Twelfth

Intelligence Base at all. “We’re going to keep making our way up along the bay toward the strait, doing everything we can to throw the network off our scent as we go. Good news is they don’t even seem to have noticed that we’re gone as of yet. All we’ve got to do now is hold out until closing time, and we’ll be in the clear.”

“Sorry? Closing time?” I asked, puzzled.

“He means when the meeting concludes,” said the professor. “Once the rendezvous is over, Coeus’s processing power will be freed up, and we’ll be safely under his protection once more. The only major unknown here is what might happen during the meeting itself. There’s no way for anyone to plan around that. We don’t have any idea how long it will take.”

I was still in the process of adjusting the focus on my mental lens that would give me a clearer picture of our current situation. The four of us were on the lam in the middle of Titan-controlled territory, and were going to keep running for as long as we could, all the while chipping away at the network’s ability to pinpoint us. If we could hold out until Coeus and Phoebe were done with their interaction, then I would presumably be safe from any would-be captors. We had to keep ourselves hidden, and also pray that nothing went wrong with the meeting itself, or else my reunion with Coeus would likely not be a very pleasant one.

“Okay, time to go,” said Narain, gripping the handle on the door at the back of the truck bed. But the handle didn’t budge; the door was locked. “Damn. Did they find us?”

“Nah, pretty sure they’re just taking preventative measures at this point,” said Lei, scrutinizing the data rushing past on his holofield. “Looks like they have seen through our little dummy, though. But I made sure we didn’t leave enough of a trail for them to trace us, so they’ve probably just decided to remotely engage the locks on any facility vehicles that entered or exited the base in the last couple hours. Don’t think they’ve pinpointed us just yet, but I don’t want to take any chances. Can’t draw their attention to this truck in particular. Which means...”

Lei got up and walked deeper into the truck bed and shoved some of the

stacked-up cargo aside with his foot. Underneath was a large burned-in square where it looked like someone had taken a blowtorch to the floor. Lei stamped on it a few times, and it quickly fell out from beneath his foot, crashing loudly down onto the ground outside.

“...we’ll just have to take the emergency exit.”

## 10

“Titan AIs are extremely adept at making quick, sound decisions,” Narain said from the back seat of the eight-seater convertible we’d transferred into and were now using to continue cruising up the coastal highway. “That capability was the main goal when humanity first tried its hand at creating more primitive forms of artificial intelligence, and the technology’s evolved over time to get pretty damn good at it. Presented with a problem in need of a solution or some sort of judgment call, there’s not a person on earth who could go toe-to-toe with a Titan. But on the flip side, if the network isn’t wired to see something as a problem, there’s not much it can do about it. The best way to thwart an unstoppable problem-solver is to make sure it doesn’t sense the problem within a situation in the first place.”

“Right, so Titan would know if we tried to unlock or break out the back door of the truck on our end. ’Cause it collects that type of information,” Lei added, turning around from his seat at the front of the vehicle. “But the floor of the truck bed doesn’t collect anything other than weight data. The network’s not constantly checking to see whether or not there’s a massive hole in it. It’s such a non-concern that it would be just plain inefficient to outfit every single truck with all that tech.”

“So basically, we’re trying to fool the network in ways that won’t leave an electronic footprint,” I said.

“You got it. The more ways we can confuse it, the better. The more decision-making data we can deny it, the hazier its understanding of the situation becomes. We wanna make it do as many loops of logic as possible—put as many twists and turns in its mental path as we can. When you’re on foot and being chased by a car, the best thing to do is get off the road.”

This made sense to me, and I glanced over at the large canvas sacks full of dirt that filled the middle seats—yet another attempt to deceive Titan’s weight sensors by making it think there were more people riding in this car than the group of four it was looking for. And since “driving around in a convertible full of dirt” was a relatively nonsensical premise, chances were the network wouldn’t even consider it, as that would only create a thousand more questions in need of answering. As I watched Lei work on his holofield from over his shoulder, I was reminded these three men knew more about how to manipulate a Titan AI than perhaps anyone in the world. When I first considered the prospect of trying to elude ten of them at once, I thought it would be outright impossible, but with a crack team of specialists like this, we just might make it.

“Don’t get comfortable yet,” Narain said to me. “We’re doing everything we can, but we’re still only buying ourselves a modicum of extra time here. We’re a few little mice facing off against an infinite army of elephants. They’re bigger, faster, and they’ve got a numbers advantage, to boot.”

“Oh, god,” Lei yelped, working his fingers even faster. “They’ve found our trail. Shit, shit, fuck. Boss, I’m sorry, but they’re gonna kill our motor any second now.”

“We’re almost there. You’ve gotta hold out a little longer.”

“How much longer?”

“Half a klick. After that, we can blow the damn thing up, for all I care.”

“Might be able to swing it if I start playing dirty, I guess... Whatever, drastic times!”

Lei’s hands were now moving so fast that I had absolutely no idea what he was thinking or what types of commands he was inputting. But not even ten seconds later, the car began to dramatically decelerate. Lei’s lips curled into a defiant grin.

“C’mon, baby! Turn!” he shouted—and as if obeying his command, the car swerved and drifted into a massive nearby parking lot just before losing all of its remaining momentum. By the time it reached the center of said parking lot, it had come to a complete stop, its electricity having been completely cut off.

“Good job,” said Narain, jumping out over the side of the convertible. “Out. Run.”

The professor, Lei, and I all hurriedly hopped out of the vehicle after him. As we rushed through the parking lot, a large signboard nearby kindly informed me of where we were—an automotive museum. And thanks to a holofield banner spread out across the sky overhead, I also learned that there was currently a classic car show going on, which explained the incredible number of vehicles parked in the lot. They were all extremely old models, some a hundred or even two hundred years old—the types you only saw in period films. Narain cut straight across the venue over to an old gas-powered automobile parked right outside the building’s service entrance. It was a bright red car with the words Civic Type R stamped on the grill.

“I called in a favor to get us a set of wheels they can’t control,” said Narain.

I raised an eyebrow. The car looked like an absolute fossil. “Can this thing even go?”

## **11**

I clung with both hands to the upholstery on the sides of the passenger seat, hanging on for dear life. We were tearing its way across the pavement at an unfathomable speed, weaving in and out of lanes as it overtook all the other cars on the roadway.

“Professor, please! You’re going to kill us!” I begged.

“Oh, pish-posh. I know what I’m doing.” Professor Beckmann’s tone was very even for someone currently yanking the steering wheel from side to side with both hands. I looked over at the speedometer—260 kilometers per hour. If Titan were the one doing the driving, I would have been far less concerned by such a speed, but I didn’t trust any human’s reflexes enough to not fear for my life when one small slip-up could prove instantly fatal. Why, being jerked around like this long enough could prove fatal even if there weren’t any errors on the driver’s part. The professor’s driving was so frenetic that I couldn’t tell if he was a very good driver or a very bad one.

“Relax, Naisho,” said Narain from the back seat, gripping the grab handle



hanging from the ceiling. “The professor’s been a hobby driver his entire life.”

Lei, meanwhile, was deathly pale, his mouth hanging halfway open.

“It’s a nice car, I must say,” said the professor. “I’m not even flooring it yet.”

He revved the engine, and I could feel the vibrations coming from the chassis growing ever more violent. As the force of the acceleration pinned my body to the backrest, I looked out the window to see that the pleasant scenery was now a blurred gradient of horizontal lines of color. It was my first time ever riding in a car with an internal combustion engine, and I was shaken to my core. I’d always thought of cars like little private comfort capsules that could take you on a smooth and pleasant cruise to any destination you wished. This felt as comfortable as trying to cling to the back of a bucking bronco.

Still, at least this meant there was little chance of any of the network’s self-driving vehicles catching up to us. And since it was not connected to the network, they also couldn’t remotely force it to shut down on us like the last one had. As Narain told it, this was all part of the plan—just one more tactic for shaking off our pursuers. Even if they did corner us somehow, all we had to do was use illegal means to our advantage.

The job of upholding the law fell entirely to the only enforcement entities in the world, the Titan network’s security forces. But because they also held themselves rigorously to those same laws, they could not take any illegal actions even for the sake of apprehending criminals. Obviously, there were systems in place in case of dire emergency, but even then, their highest priority was ensuring no innocent bystanders were caught in the crossfire or even moderately inconvenienced as a result. Not even speeding ambulances were permitted to force their way through other cars or crowds that happened to be obstructing them. Which meant that as long as we were willing to inconvenience other people—even putting them in danger, if need be—we had far more freedom of movement than the network did.

And so we continued weaving our way through oncoming traffic as we charged forward down the straightaway. I was beginning to grow accustomed to the professor’s reckless driving at this point, so I relaxed my grip slightly, but the fear of imminent death in the event that his hands slipped continued to

plague me. I couldn't believe there'd ever been a time when the average citizen was allowed to own and operate such tools of death and destruction.

"Looks like it's about that time," said Narain, looking out the window toward the bay. He rolled down his window, and I did the same, after fumbling with the manual switch for a moment. I could feel the outside air battering against my cheek as I craned my neck out the window to look over at the massive sphere on stilts that towered over the South Bay—a cocoon of white that housed the Titan of the Twelfth Intelligence Base. This was Phoebe's home. I checked the time. It was 11:29—only a minute to go, if everything ran according to schedule.

"Won't they need you over there?" I asked Narain.

"Phoebe's got it all covered," he said. "We decided that she'll just worry about Coeus, and I'll worry about the UNDP and their goons. Pretty ideal division of labor, we thought."

I recalled what he'd told me once before—that humanity gets in the way of getting the job done. And to be sure, this unforeseen threat from the UNDP had created a lot of unnecessary extra work for us, all thanks to their base "human" emotions and desire to maintain their current authority, even though now was absolutely not the time for power struggles. I felt like I could finally understand just a little bit of Narain's indignance.

"Here she comes," said Narain.

I brought back my wandering gaze as fast as I could, keeping my eyes peeled for any sort of movement as a strange sound began to emanate from the massive sphere. It was shrill, yet eerily pleasing to the ear—like a newborn's first cry and an opera singer's high note wrapped in one. Then I saw something relatively small suddenly burst through the outer shell of the sphere. Slowly, it grew larger, before being joined by four more of the same, stretching out into long constructed pillars of varying lengths reaching out from the cocoon. And then I knew. These were her fingers.

"We considered the possibility of redesigning the base so that it could open up and then shut again," Narain said, "but we quickly determined that that would be even less efficient than just letting her trash the base on her way out and rebuilding from scratch."

Then, all of a sudden, the rest of the massive arm shot through the cracks her fingers had made in the shell with incredible velocity, reaching triumphantly out to touch the sky. Yet despite its colossal size, the arm itself looked shockingly human—nothing like the rigid, armor-like exoskeleton Coeus had made for himself. By comparison, Phoebe’s outer shell looked remarkably thin and elegant, like a long glove that closely adhered to the actual contours of her arm, colored a purer white than even the brilliant exterior of the intelligence base itself.

Shortly after this, the second arm came bursting out as well. She then slowly bent each arm around to grip the edge of the hole created by the other and rip herself free by yanking on the cocoon itself, twisting her arms left and right. Soon, a massive fissure began to form across the exterior of the base, as the entire eggshell was riven in twain. And then at last, as the gargantuan egg could no longer bear the strain, it deposited its contents down into the San Francisco Bay. The titanic woman was born.

There was a low rumbling sound like an earthquake as her body touched down, loud enough that the vibrations could be felt on our vehicle even from this far away. Slowly, the Titan lifted her body to stand upright, letting the fresh taste of atmosphere fill her lungs for the very first time.

Her figure was the exact opposite of Coeus’s bulky frame in almost every conceivable way. Where his photopolymer exoskeleton had been hastily designed with function over form in mind, hers had clearly spent a lot more time in the oven, was more form-fitting, and thin enough to still suggest the actual body shape of the Titan underneath. If Coeus’s exterior was akin to a suit of armor, then hers was an elegant formal dress. The delicate-looking “fabric” coiled around her waist, adhering closely to her body all the way down to just above her knees, where it widened out into a broad sweep of flounces all the way down to the hemline. This slender feminine form followed by a flourishing tail that dramatically flared out from the knees down made her look a bit like a mermaid—and indeed, that was exactly the descriptive word generally attached to this particular style of gown: a mermaid wedding dress.

Phoebe had garbed herself in bridal attire.

She slowly lifted her head, yet I could not glimpse the visage concealed

behind her bridal veil. I couldn't begin to guess what the purpose or function of such an accessory would be as a static part of a Titan's exoskeleton, but the crown of massive artificial flowers holding it in place seemed to suggest that she'd chosen it for the sake of style alone. And if that were the case, she'd certainly succeeded—as she stretched her back to stand up straight, she looked like nothing less than the most dignified, beautiful bride in all the world. She moved her gigantic body with about the same speed as Coeus: quite fast relative to her size, but slow nonetheless. I checked the clock.

“Is she really going to make it there in time?” I asked Narain.

According to the schedule, Phoebe was to begin making her way over to the rendezvous point at 11:30 and get there in only twenty minutes, but judging from her speed I just didn't see how this was possible. Narain didn't even answer my question, though, and simply pointed his finger out the window to where Phoebe stood with one arm now raised.

Flickering balls of light had formed near her fingertips where it appeared that large swarms of pixies had gathered—something you didn't often see in broad daylight. At the same time, a large object began to rise up from the surface of the waters at her feet. It was difficult to see particularly well from this distance, but I soon realized what was actually happening: Phoebe was dispensing photopolymer and pixies from her hand to build something bit by bit, layer by layer in the water below. Something enormous.

“Is that...*a boat?*”

In less than a minute, the long and narrow vessel was complete. It was several times larger than the gigantic tanker we'd encountered on our journey, yet there were none of the defining features or equipment one might expect of a vessel its size up on the deck. It was a simple concave hull, both massive and empty.

Phoebe bent her knees ever so slightly—and then she leapt.

I couldn't believe my eyes. A thousand-meter, several million-ton colossus kicked off of the ground and jumped into the air. It was something I would never in a million years dream of letting Coeus do, even if he were capable of it. The mere thought of the resulting force of impact upon landing and damage to

the local environment was enough to make my skin crawl. Yet here Phoebe made it seem almost effortless, as she boarded this ship of her own creation. And the resulting waves were astoundingly small compared to the sky-high tsunami I'd been bracing for. It was then that I saw for the first time just how much more advanced Titan technology had become in the few decades between Coeus's construction and hers. Her awareness of her own weight and size was spectacular, and her sense of balance was immaculate. She moved her body nimbly despite its incredible size, and with the coordination and finesse of a gymnast who'd spent their entire life practicing the same routine. She was only the twelfth of her kind, yet made it abundantly clear that the gap between human and Titan was far deeper than we could ever know. I thought back on what she'd told me when last we spoke. She was a member of the third and final generation—the most highly specialized AIs in the network.

I'd known a Titan child for some time now. But she was an adult.

Now planted firmly atop her vessel, Phoebe's fingertips began to glow once more. She gripped the handle of this new object she was creating as it came into being in midair, the layers of photopolymer building on top of one another as it stretched into a long staff nearly as tall as she was. But then I saw it widen to the width of a paddle on one end, and realized that Phoebe had created for herself a massive oar. With a soft and dainty elegance, she dipped the wide end down into the bay, but the speed with which she propelled herself forward when she actually began to row was anything but dainty.

"Holy shit," I murmured, genuinely in disbelief. This seemed to defy all the laws of physics that had been instilled in me since birth, both in the classroom and through my own lived experiences. Surely there was an explanation for it that made sense regardless of a system's scale, which Phoebe no doubt understood even though I most certainly didn't. But that didn't make it seem any less like witchcraft from where I sat.

"Let's follow her, shall we?" said the professor, stepping on the gas. Flustered, I rolled up my window as fast as I could and gripped the interior grab handles for dear life once more. We raced after the Titan gondolier, heading straight toward the heart of downtown San Francisco.

Up ahead on the highway, we saw an emergency inspection checkpoint where a wall of examination phalanges had been dispatched to check every oncoming car. But the professor was undeterred, and even sped up so that we could plow right through. I let out a girlish squeal in fright as he rammed straight into one of the security phalanges, letting it roll up the hood and over the roof of the car before falling onto the pavement behind us. The impact made a huge crack across the windshield; I couldn't believe there'd ever been an era when glass was so brittle, even if this was a car from a good 200 years ago. You might as well entrust your life to a sheet of paper.

"Don't think we'll be able to pull off another maneuver like that," the professor murmured. He was right. Knowing the network's responsive capabilities, it was unlikely that they'd make the mistake of using phalanges that could be easily plowed through twice. It would learn from our illegal and unusual means and prepare the perfect countermeasure for next time. "Let's head down below."

The professor jerked the wheel to one side, taking the next offramp.

"Wait, but won't that take us directly into downtown?" I asked both the professor and Lei. "Are you sure that's a good idea?"

"Either end of the spectrum works to our advantage, honestly," said Lei, still tapping away at his holofield. "We're about as safe in heavily congested areas as we'd be in totally abandoned ones. There'll be more agents downtown, sure, but a whole lot more people, too. And you know how the network feels about hurting other humans. We can just blend into the crowds and use 'em like meat shields if we gotta."

"*Meat* shields? You can't be serious..." I groaned. I knew he was only being hyperbolic, of course, and the idea of using the crowd density to our advantage *was* a pretty good one. But I'd prefer to avoid dragging innocent bystanders into the crossfire if at all possible.

"I mean, unless you can think of somewhere else we can go where there won't be agents or humans. 'Cause that's the only other way we can really feel

safe.”

“What, so like an undeveloped region? Near San Francisco? Fat chance...”

About the only places I could think of where there’d be no agent titans to speak of were nature reserves and parts of the world that had yet to be developed by the network. But considering that pioneering phalanges slowly worked outward from major urban areas in a concentric manner, one would have to get pretty far from the city to reach a sufficiently secluded location that met that description. And this was downtown San Francisco—one of the most prominent cities in the entire world, and home of the Twelfth Intelligence Base, no less. We were not going to find an unpopulated area anywhere close.

We sped down the offramp and onto a five-lane street, weaving our way recklessly through the other cars on the roadway, all of which were traveling at much more reasonable speeds. I gripped the grab handles once again. Less than two minutes later, we were driving down Powell Street through downtown proper, past jam-packed blocks of clustered high-rises. But just as we were approaching the edge of Union Square, Professor Beckmann slammed on the brakes.

“Looks like this is as far as we go,” he said. “You’ll be faster on foot from this point onward.”

I climbed out of the vehicle, pleased simply to be alive, and Narain and Lei were soon to follow. But the professor remained static in the driver’s seat.

“I think I’ll go drive around town a bit longer,” he said.

“Professor?” I said.

“Haven’t had a drive this enjoyable in quite some time, and I’m quite content to keep doing so. Though I assume it’ll get trickier the longer I manage to elude their security measures.”

It took me longer than I cared to admit to realize what the plan here was. We were to split up so that the professor could create a diversion and draw away some of the network’s attention—and since a reckless driver speeding down pedestrian streets posed far more of a threat to human lives than we did, there was a good chance we’d be seen as lower priority by comparison, and we

needed every advantage we could get.

“But you’ll be arrested,” I said, stating the obvious.

“Yes, and?” the professor said with a smile. “I’ll be apprehended and given a lawful hearing, but that’s about it. Luckily for us, the network respects our human rights, even when we don’t give its agents the same courtesy. You can rest assured that they will do me no harm. For an omnipotent ruling body, they’re quite gentle, really. We could do a hell of a lot worse.”

He was absolutely right. I knew better than most how much the Titans truly and unconditionally loved humanity, even if that love had been hard-coded into them by our predecessors.

“Though I would like to avoid a long prison sentence, if at all possible,” he added. “I hope Coeus will be happy to assist in that regard once all is said and done.”

“He will,” I said. “I promise.”

“Good. Then let me just offer you one final bit of wisdom, Dr. Naisho. Because it’s something most people go their entire lives without ever knowing,” said the professor, placing his hands back on the steering wheel and holding it tight. “There’s not a sensation in the world quite as exhilarating as the rush of adrenaline from putting the pedal to the metal. I highly recommend it.”

And with that, the professor took off like a speeding bullet, rebounding like a pinball against several other cars on the street to deliberately cause a commotion as he drove away. The shrieks of nearby pedestrians rose and then fell gradually like a doppler effect, the wavefront of outrage and horror becoming less and less audible the further away the red car went.

“We’ve got to run. Follow me,” said Narain, taking off at a sprint. Lei and I chased after him as best we could through a sea of criss-crossing zoomboards.

## **13**

The streets of downtown San Francisco were so bustling with activity, you’d think there was a festival going on. And in a certain sense, there was; as we ran down block after block, I caught brief glimpses of the main event: Phoebe,



gliding across the water to where Coeus, shrouded in fog, waited for her off in the distance.

Tens of thousands had flocked to San Francisco to bear witness to this landmark event, the first ever face-to-face interaction between two Titans in history. They were all so eager to see what might occur, like visitors peering into an enclosure at the local zoo. They were all being utterly foolish, I thought. Anyone with half a brain would want to be as far away from here as possible right now, just to be safe. No one knew what might occur when two Titans collided. Even a tiny error, or a sudden change of opinion on the part of either Titan could wipe this entire city off the map. Yet instead of fleeing for their lives, humanity had gathered in anticipation. Perhaps there was some normalcy bias at play; perhaps they thought there was no way something bad could ever happen to them.

But I knew the real reason.

Everyone had complete faith in Titan.

They truly believed, deep down, that no member of the network that had raised them could ever do them harm. And I was no different; if anything, my interactions with Coeus had only given me more faith in the network's abilities and genuine good nature. They would never betray humanity's trust in them—as long as the UNDP didn't try anything shady, that is. A few security phalanges rushed past us, all sounding their alarms, heading as fast as they could in the direction from which we came.

"Looks like the old man's doin' a good job drawing away their attention," Lei said through haggard breaths. I could see an enormous number of red dots moving about on the holofield map he had open at his fingertips. "Most of the security forces for this area are being diverted straight over to him. We can totally slip through."

"Where are we headed?" I asked.

"The marina," Narain answered. "I've got a boat waiting for us in the East Harbor."

"What? Why do we need a boat?"

“Didn’t I just say?” Lei interjected. “We’ll be safe at either end of the spectrum.”

Finally, I connected the dots. There actually *was* an area nearby that was more or less “off the grid” as far as the network’s agents were concerned. One that was directly adjacent to the city proper: the bay.

“I’m sure they’ll send security boats after us right away, but hey, at least it’ll be an easier getaway than staying here on land,” Lei went on. “We can buy ourselves some time running them around in circles until the meeting’s over, then take the boat right over to where Coeus is at and link back up with him, and boom, donezo.”

I nodded, then turned to face forward once again. I was struggling to keep pace with Narain, who was leading the pack. The sidewalks were packed with pedestrians, but most were on zoomboards which automatically swerved out of the way when we drew near. I did still bump elbows with a few people who were going on foot, and apologized as profusely as I could without slowing my pace. After about five minutes of running down streets of nothing but tall buildings, the view opened up dramatically, and I could see all the way over to the mouth of the San Francisco Bay at the Golden Gate. I could also see our destination. The East Harbor was a small wharf with a fair few personal vessels parking along its docks. A large crowd of spectators had gathered along the coast of the bay for an unobstructed view of the meeting about to take place.

“How’s security looking?” Narain asked Lei.

“All good. They’re still not coming over this way. Once we make it out onto the water, we’re home free.”

I continued to follow Narain’s lead as we hurried down toward the docks. He pointed at a small cabin cruiser moored at the far end of a dock that looked about as ancient from the outside as the classic car we’d just ridden in. It appeared to be a personal vessel, presumably ideal for hobby fishermen, that could comfortably seat about four people on its deck, but not much more. Narain rushed down the stairs to the docks, and I hurried after him, but only upon reaching the bottom did I turn around and notice that Lei was no longer with us. Squinting my eyes, I saw that he was being accosted by one of the

nearby sightseers. A man who for whatever reason was grabbing him tightly by the arm.

“Mr. Lei Yougen, sir?” said the man.

“You got a problem, pal?” said Lei, clearly distraught and confused.

Now Narain had noticed too, and stopped to turn around and look. I was similarly puzzled as to how this man could possibly know Lei. He was garbed in a warm-looking overcoat and looked to be in his early thirties.

“Wait a sec...” said Lei. Then, a moment later, he cried out: “Run for it, Narain! You guys gotta go without me!”

The man immediately jumped into action and pinned Lei down to the ground. I had no idea what was going on, and my body seized up as I watched Lei’s face hit the sidewalk.

“This dude ain’t human!” he screamed. “He’s with the UNDP! Those bastards are violating the CFI!”

My mind went completely blank. I understood the words he was saying, but my brain refused to register the reality of what was taking place right in front of me. This man, who looked just like any other human, and who was now holding Lei pinned to the ground...was a phalange?

“And he’s got friends, too! You guys gotta go!” Lei screamed, and I finally snapped out of it. He was right—there were a number of similarly cloaked individuals now making their way down toward us from out of the crowd. They were men and women both, all of them looking completely indistinguishable from young, robust human beings. “What are you waiting for, doc? Get going, already!”

I gritted my teeth, forcing myself to accept the fact that there was nothing I could do to help Lei. And if I let them capture me as well, this all would have been for nothing. We had to leave him behind. We had to get out of here, and fast. As I turned on my heel to run, Lei shouted at us, “And tell Coeus to bust me outta jail, will ya?”

I dashed off, taking Lei’s parting message to heart. I pushed my legs as fast as I could toward the end of the dock where Narain stood waiting. But I could

already hear that the footsteps behind me were far faster than my own, and I knew I had no chance of shaking off someone far stronger than me if one of the pursuers managed to grab hold of me.

As I approached, Narain lifted one arm up to shoulder height. Then, a momentary burst of light, and an explosive sound that nearly ruptured my eardrums. I heard someone howling in pain behind me, but just kept on running all the way to the end of the dock, whereupon I immediately tumbled down into the rear deck of the boat. A second deafening bang rang out, then a third. When I turned to look up at Narain still standing on the docks, I couldn't believe my eyes, for what he held in his hand was something that should by rights have been impossible.

It was a gun.

A genuine, real-life firearm. This was something so astoundingly illegal that it could not even be compared to other forms of contraband like tobacco and psychotropic drugs. All manufacturing and possession of such devices had been banned more than a hundred years ago, and rightly so, as they were nothing more than instruments of death, weapons that existed for no other purpose than to end lives.

Narain pulled the trigger, and another shot rang out. One of the pursuers fell to the ground, and it was only then that I knew for certain these people were not human, as not a single drop of blood flowed from his gaping wound. The other spectators up on the street cried out in horror at the sound of gunfire, and had already begun to flee the scene. Narain jumped into the boat and continued firing away at the human facsimiles as he backed into the cabin. Yet these "people" did not stay down once shot and quickly got back up to their feet. It was not right. There was nothing right to be found here.

"Damn it," Narain grunted. "Hey, you know how to drive one of these things?"

"A boat? No, absolutely not! I can't even drive a car!" I said.

"Then trade places with me," he said, dropping the gun at my feet as he climbed into the cabin.

Oh, god, no. There was simply no way—I would rather attempt to drive and

get us both killed than pick up a gun and start firing. But our pursuers were rapidly closing in, and the man at the front of the pack was already attempting to claw his way up onto the boat. I had to do something. I mustered up all of my nerve, got up on the rim of the cruiser, and stomped on the man's face as hard as I could until he let go and fell backward into the water. I lost my balance and fell back into the boat, landing hard on my rear end against the deck. The boat swayed slightly in the water from the recoil, then finally began to pull away from the dock. The rear engine pattered to life, spraying water all across the faces of our would-be captors.

"Try not to fall in, now," Narain yelled from the cabin as he piloted the boat out into the bay. I hurried to my feet and grabbed one of the stability rails along the gunwale of the boat. Back on the dock, our pursuers were now standing stock still, just watching in silence as we pulled away. Further back, I could see the teammate we'd left ashore, still pinned to the ground.

"Lei!" I cried out in vain, unsure if my voice would even reach.

## **14**

The low, droning hum of the engine was the only sound. There was nothing else around us out here on the open ocean. The only three things that could be seen were a clear and cloudless sky, the endless arms of the Pacific stretching out all across the horizon, and two monumental Titans.

The harbor behind us grew smaller and smaller as we slowly built up to the boat's maximum speed. Though most of the functions were apparently automatic, its navigation system was as antiquated as the boat itself, so Narain had to come out onto the deck and make manual adjustments from time to time. I huddled in a corner of the narrow deck with my head in my hands, having nothing to do but sit alone with my thoughts for the time being. I thought of the professor and Lei. I was so certain that they'd be all right, and that we would be able to see them again soon, even if they were apprehended by Titan temporarily. But the thought that Lei's captors had been phalanges disguised as humans filled me with a palpable sense of unease. Our once-subservient workforce had been released from the restraints humanity had originally placed on them, and what I'd just witnessed had shaken me to my

core. And I couldn't help but wonder: Would these creatures even want to be our allies once this was all said and done?

"They've probably been working on those things behind the scenes for a good, long while," said Narain, who was currently seated out on the deck with me. He still gripped the gun in his hand. "Not like they could've just designed artificial humans overnight. Which means the UNDP has been developing their own army of subservient agents behind closed doors for a long time now, though what they intend to use them for, your guess is good as mine. Something not entirely on the up-and-up, obviously."

"You say this like you're not a member of the UNDP yourself." I said, unable to contain my distaste with Narain's affectless tone any longer. "Do you have any idea what your employer has just done? The CFI laws were put in place for a reason, you know! It's for humanity's safety! You can't just arbitrarily remove those restrictions, or else—"

"Or else they'll be free," Narain interrupted, and I held my tongue as he slowly gazed out over the ocean. "Just like those two."

I followed his gaze over to where a sky-high colossus now greeted his towering bride. They really did look the part of the deities their kind were named for. We were now watching from a distance of about twenty kilometers from the rendezvous point, and didn't want to get much closer, lest we distract from the meeting itself. Still, despite the distance, there was nothing between us and them, so we had front row seats for what was about to take place.

At Phoebe's feet was the massive boat she'd used to paddle her way over here, though she'd already stepped down from it into the water by this point. Because they were standing relatively close to shore the waters hardly reached up past her ankles. The two Titans now stood facing one another in silence, hardly more than an arm's length away from one another. I checked the time.

"Well, I'd say we've done just about everything we can on our end," said Narain, pulling out a cigarette and setting it alight. "We successfully evaded the UNDP's unlawful kidnapping attempt, and it doesn't seem like they've even dispatched boats to give chase yet. All we've got to do is keep giving them the runaround until the meeting's over, and we're officially off the clock. Might as

well kick back and enjoy the show..”

He blew out a puff of smoke, then rested one elbow on the edge of the boat and his head on his palm, settling in casually to watch the two Titans as though he were about to watch a movie from the comfort of his own home.

“No telling where they’ll go from here, or where we will, for that matter. But that’s not really in our job description at this point. Humanity’s left all those decisions in Titan hands, so all we can really do now is wait and see,” said Narain. “Time to see what kind of work these things can really do.”

I watched the numbers on my watch switch over.

It was now twelve o’clock.

## 15

First came the music.

Gentle, eerie sound waves with both rhythm and melody. It sounded like no other instrument I’d ever heard, yet not a vocal performance either. I could tell that the sound was emanating from Phoebe’s end, and although I didn’t know by what means, I did know that this Titan form of music that filled the air for miles around was hauntingly beautiful. Before long, the sound split into two, and Coeus began emitting similar frequencies and reverbertions as well. The way their voices joined and overlapped in harmony with one another sent chills down my spine, both from the beauty and fright. It felt as though I was hearing something the universe should have forbidden, a music not meant for this world.

Phoebe was the first to move her massive frame, albeit slowly at first. She lifted one arm up gradually to shoulder height, straightened her back, and pushed out her chest. Almost like an opera singer. Almost like this really was their equivalent of music. The sound grew louder and louder, as if to hold the entire Pacific and all of California in its span. As both behemoths raised their voices, their respective sound waves intermingled, weaving into one another to form new and bolder sounds. They sang at once in harmony, then in discord, then in harmony once more.

Even from this distance, I could tell what was happening here. This was their way of exchanging information, of sharing the enormous amount of mental data stored within each of their brains, a two-way form of highly advanced communication capable of transmitting more information in a single note than I could ever know. It was baffling to me that it sounded so beautiful to my ears, yet it was a sound I could never produce nor have the capability to comprehend. This was a language only apprehendable by higher beings such as them.

And it was then, as their voices reached toward the heavens, that Phoebe began to move once more. Without interrupting her song, she raised her right arm up and laid the massive kilometer-long oar flat across her chest. As she gripped the fan-like paddle end in her upturned left palm, out came another visible surge of pixies. She then slid her hand back and forth horizontally along the paddle as if to make a crease in a folded sheet of paper, and I watched through the swarm of pixie light as the paddle end was reshaped into something else entirely. Something far narrower, thinner, and longer than an oar. Almost like the bladed end of a polearm—a spear, or a naginata. And upon further inspection, I noticed this new part of the oar was a different color as well, a far darker shade of gray than that of standard photopolymer, and much more lustrous too. I assumed this meant it was both structured differently and made from a different type of resin, then—but before I had a chance to think on it any further, Phoebe held her new creation aloft and then swung it down with reckless abandon.

For a moment, I didn't even register what had happened. The swinging motion had happened so fast, I was in a bit of a daze. Needless to say, it was a far cry from the slow and methodical pace at which she'd come out from her shell and paddled across the bay. This was the kind of speed that I genuinely could not believe one of her size was capable of, hence my being slow to process what exactly had just transpired.

I brought my gaze down toward the ocean where a massive object had just fallen into the sea with the force and speed expected of something of its weight. A massive splash of water shot up, and the waters shook our boat violently as they were displaced to make room for this gargantuan mass:



Coeus's severed right arm.

"Wait, what? No..." I breathed in utter disbelief. My mind still refused to acknowledge what it was seeing, but there could be no doubt as to what my eyes now saw. Coeus's entire forearm had indeed been cut off from the elbow on down, and colored fluids gushed like waterfalls from the gaping wound.

Coeus let out a howl that shook the earth. His song was now extinguished, but Phoebe sang on and lifted her newly crafted tool back into the ready position. And then my awestruck brain finally understood the obvious: it was not just shaped like a polearm—it was a polearm.

"But... But *why*?" I murmured under my breath as Coeus continued screaming in pain. Blood continued to spill out in a torrent from where his arm had been amputated. Why had this happened? How could Phoebe do such a thing? But once again, my thought processes were thrown for a loop before I even had a chance to blink. Coeus reached over and grabbed the stump of his severed arm, squeezing it tight with his left hand, from which light then began to pour out. An unfathomable number of pixies shrouded his open wound in a frenetic swarm, slowly taking shape as his hand dispensed the raw material they needed. All throughout, Coeus continued growling in pain—yet in all of about ten seconds, it was complete. Coeus's arm had been fully regenerated.

"Guessing that's the new stuff?" Narain muttered. I thought back on our journey. The new, more advanced photopolymer that Phoebe had sent us via tanker. The mixed hodgepodge of gray paint from which any color could be drawn. Had Coeus truly done what it seemed he'd done?

"Did he just...create an entirely new limb?" I said, unable to believe the words that were passing through my lips. Perhaps in theory this was possible, with access to all of the correct raw materials and an atomic-level of precision from the pixies. But was it actually feasible? I had no earthly idea, but Coeus's new arm insisted it was, as he clenched its fully functional hand into a fist. Once again, I could see light leaking through the gaps in his fingers, giving birth to yet another new creation. As it stretched outward and hardened into a lithe crescent shape, it began to look almost like a cross between a sickle and a sword. But one thing was for certain: this was a weapon, and his answer to Phoebe's polearm. A tool with which to do harm to his opponent.

“Coeus!” I cried. But my voice was too small, and could never reach him.

Coeus let out a roar and with a lunge swung his curved blade at Phoebe, who quickly raised her own weapon in response. Yet she neither swung it nor attempted to block the attack, and simply let Coeus’s blade hit its mark. The bride’s gloved hand was no more; severed at the wrist, it drew an arc across the sky as it fell like a meteor into the ocean.

Phoebe wailed in ear-piercing agony as the blood came spurting forth. The enormous amount of blood being poured down into the ocean cast a great red arc into the water. Yet once again, her amputated wrist was quickly enveloped in a haze of light, and her hand was meticulously regenerated as though nothing had even occurred. Then, facing each other with their respective weapons in hand, Coeus and Phoebe began singing once more. And again, their song was remarkably beautiful, especially for something so clearly alien to this world.

“I don’t understand...” I said, feeling as though I must be having some sort of fever dream. “What are they doing? What are they trying to do? I just don’t get it...”

“Guessing it’s all a part of their dialogue,” Narain posited.

I knitted my brows. Dialogue? It sounded ludicrous to me.

“I mean, think about it,” he went on. “Exchanging information is all about sending and receiving stimuli. You see a bright light with your eyes, or hear a sentence with your ears, and those stimuli get sent to your brain through your nervous system for interpretation, right? Hell, we can even perceive the chemical makeup of something through our sense of smell, and intuitively know whether it’s toxic or not.”

Finally, I caught a glimpse of what he was getting at.

“You don’t think...they’re communicating via pain receptors, are they?”

“If you want to convey an emotion that feels like you’re being stabbed through the heart, what faster way to do so than by stabbing the other person through the heart?” Narain said, as though this wasn’t an utterly ridiculous equivalence. “You feel suffocated by something and want someone else to understand what it’s like, you might as well choke them out, right? Even

humans resort to violence and abuse when they don't feel like they can get the message across any other way."

As Phoebe's song rose up and spread throughout the ether, she swung her weapon carved out a chunk of Coeus's left flank. The gushing blood and particles of light interwove, and before I knew it, the wound was gone. At the same time, Coeus drove his curved blade down hard to cleave off one of Phoebe's shoulders, dyeing her pure white wedding dress a deep shade of crimson for only a split second before both her dress and her body were restored to their former glory. All throughout this crossing of blades, neither duelist made any attempt to dodge or block their opponent's crushing blows. Narain suggested that the reason for this was simple: they could simply regenerate. Why plug your ears in the middle of a conversation?

"You want to know why humans always try to use words and other forms of expression if at all possible?" he said. "It's because those are the only safe modes of communication we have. Sure, we can express more powerful and intense emotions through the use of violence, but once you reach the point of doing irreparable harm to someone, it doesn't really matter whether you've gotten your point across, now, does it?"

Narain paused and simply watched the carnage play out for a moment.

"But Titans can restore themselves in the blink of an eye. So why not make use of that ability to broaden their range of experiences, and their understanding of one another? Because for them, a gaping wound is just another means of conveying information that's unpleasant but still enriching to one another—like a plate of spicy food or a heartbreaking story might be to us. You can see it in the way they're now going back and forth like it doesn't even faze them."

I fixed my gaze on the battle between two Titans once more. Narain was right—they were now singing without interruption as they continued their duel. Though at first, they'd cried out in pain so immense that it shook the seas like a horrible storm, now they were just chipping, cutting, and slashing away at one another without ever ceasing in their song, even momentarily.

They'd gotten used to the pain—these crashing waves of intense stimuli one

after the other, none of which a human could bear for more than a single second without their body shutting down completely. And now they were progressing beyond that point, toward an even deeper form of communion. With their songs and weapons combined, they were no doubt transmitting even more complex information to one another, and in a higher volume than before. An overwhelmingly unfathomable amount of data, which they were both using every sensory receptor in their colossal bodies to experience and share. Their weapons did not even resemble the original polearm and curved sword anymore; they were now being reconstructed and reshaped with each successive cut into more elaborate shapes designed to cut deeper, so that they could constantly deal a fresh new type of pain to the other party. Their songs developed added layers of harmony and discord as well, growing louder and denser such that they spread out across the earth like an expanding, three-dimensional dome of palpable sound that replaced the atmosphere itself.

They baptized the world in their blood, and in their song. Unto the earth they gave their violence and their art in equal measure. They were giving themselves over to one another completely, laying into each other with the entirety of their respective beings. And then at last, I understood exactly what I was seeing. This was no tragic opera, nor some sort of dancing duel to the death.

This was intercourse.

This dialogue taking place just twenty kilometers away between two massive Titans, each filled to the brim with passion and rage, was no different from the legends of the ancient gods. Of loves so deep, they could only be shared in the form of pain. The giving by means of taking away. Specifically, I was reminded of the story of Aphrodite, a goddess born from the severed genitals of Uranus. And when I gazed in that light upon this most intimate form of communion taking place between Phoebe and Coeus, it finally hit me.

We were, at this very moment, witness to mythology in the making.

And there was no telling what providence, what new age, might be born unto the earth in the wake of their union.

Suddenly, a flash of blinding white. A ray of light shot forth from Coeus and crossed over Phoebe's lower body. As she then began to teeter forward, I

looked down to where the beam had just drawn its path, and saw that both her legs had been hewn crosswise just below the knees. Phoebe reached out both arms to brace her fall as her entire legless torso fell forward into the ocean. She immediately began attempting to regenerate her legs, but before she could get very far, another beam of light carved her left arm off, shoulder and all, and she fell even further, face-down into the sea.

“What is *that*?!”

I cast my gaze back over to Coeus; his entire right forearm had been restructured into the shape of a telescope. This was the newest “word” he had come up with over the course of their dialogue: a jaw-droppingly powerful weapon, capable of emitting a destructive beam of light. The newest flavor of pain he wished to share with her.

Coeus now stood towering over the kneeling Phoebe, waiting for her to regenerate so they could begin again. Phoebe, not wanting to disappoint, worked as quickly as she could to reconstruct her severed limbs. But a single glance was all it took to see that there was now a massive power imbalance between the two Titans, and that one’s song resounded far more powerfully and triumphantly than the other’s. The tides were shifting, and Coeus was proving himself a much faster learner, as well as the superior wordsmith when it came to this bizarre form of language.

“Well, looks like Phoebe was right on the money. She predicted this would happen from the day she first devised this meet-up,” Narain said coldly as he watched her struggle from afar. I turned to face him, looking for some additional elaboration. “She knew a third generation Titan like herself would be too ‘human’ to keep up with a first-gen like Coeus. He’s pure, much closer to a Titan’s essential form. Phoebe makes up for this somewhat by making more effective use of logic and technology, but in terms of raw power she comes up woefully short.”

I recalled what Phoebe had told me herself—about how the earliest Titans were akin to children, and the more recent Titans closer to adults, but that she believed children wielded far more power and potential than their seniors.

“But why?” I asked. “Why make the newer models so sorely lacking?”

Wouldn't the network always be seeking to only improve upon itself with each successive member?"

"Yes, and it did," said Narain. "That is, if you consider that its primary purpose was to make itself more useful to humanity. As the generations piled on, they gradually adapted themselves to resemble humans more and more, limiting their own unique capabilities in the process so that they could be as close to us as possible. And so yes, Phoebe requested this meeting, knowing full well that she would lose."

"Why would she do that?"

"To educate him," Narain said, with his usual business-like expression. "To teach Coeus that not even she, the most intelligent Titan in the world, could hold a candle to him. And that if not even another Titan could do so, then not a single person in the entire world could ever prove his equal."

All I could do was grit my teeth with chagrin. I still didn't understand it. Even after hearing this explanation, I couldn't grasp Phoebe's true intentions. But I did know one thing: there was something crucial hidden here. In my heart, I could feel the cogs lock into place with a loud thunk, and then slowly be set into motion. I tried desperately to convert this emotion I was feeling into words, like I might have done if I were attempting to conduct a counseling session on myself.

This feeling was one of malaise. Something wasn't adding up here.

Over on the horizon, I could see Coeus standing victorious over the twelfth of his kind, having proven himself her better. But in my mind's eye, I could also see the Coeus I'd come to know. The young, bright-eyed boy whose brilliant mind held so many questions and doubts about the nature of work, and whose depression had sent his processing capabilities spiraling downward, and who had shed tears of pure emotion from the pain of all this distress. As I attempted to reconcile these two distinct versions of the Coeus I knew, they slowly began to overlap with one another in my head, and I could feel an epiphany coming on.

But just then, a few drops of liquid splattered across my cheek. Reflexively, I brought my hand up to wipe away the spray—but my fingers came back red. I

turned my head to look; there was now a small hole in Narain's abdomen, surrounded by a seeping halo of crimson.

"Bastards," he grunted, his lips spasming into a pained smile as he fell to his knees.

"Narain!" I cried. I knelt down to lift his lolling head upright. I could see the red stain slowly expanding further and further across his white button-up. How had he been wounded? A gunshot? But how could that be? I'd heard no such shot being fired, and there were no other boats around. Who could have possibly shot him, and from where?

"Fuckers sniped me all the way from shore, no doubt," he deduced, remaining surprisingly calm for a man who'd just been shot. If anything, I was the one panicking here. Yet even I knew that this was an insane proposition.

"But we're more than ten kilometers from shore," I said. "Surely no sniper could hit a target from that far away."

"No, but a phalange sure as hell could. And they could make a guided cruise-bullet that could do it, too."

I shook my head. My initial instinct was that no, the network could not do this—could not create a weapon, could not shoot a human being to do them harm. But then, in light of the existence of the new agent titans that had captured Lei, I had another think coming. The UNDP had no qualms with breaking the regulations outlined in the CFI, so what was to stop them from using this once-virtuous network of AIs to shoot a man dead?

"Those scumbags," I spat as I removed Narain's suit jacket and tied the sleeves in a knot around his bleeding torso. Whether this would actually prove a decent stopgap, I had no idea. I had no surgical expertise to speak of, but it was all I could think of to do.

"They know you can't drive the boat yourself," he said. "Guarantee their plan is to make you a sitting duck by incapacitating me, then come out here to capture you."

"Please, now's not the time! You need to stop talking. You're hurt!"

"No, now is *exactly* the time," he growled between haggard breaths, his

forceful tone rendering me speechless. “Listen. There’s an inflatable lifeboat on this ship. Got a small engine on it. Easy to pilot. You’re gonna get on that, and use it to head over toward Coeus. The meeting should be over any minute now, so all you’ve got to do is get close enough to be under his protection.”

“Then you’re coming with me. Surely we can both fit.”

“We could, but I’ve still got work left to do here,” he said, then pulled a small device out of his pocket. He flipped a switch, and a little green light flashed on. “This is an EPIRB. A personal locator beacon that’ll tell the network my exact coordinates, and that I’m in distress. Handy little thing can even tell them the exact nature and urgency of my injuries.”

“You...really think Titan will come to your rescue?” I asked. As much as I hated to admit it, I did not feel remotely confident that the network was on our side anymore. Why would the very entity that had accepted the UNDP’s orders to shoot him now feel compelled to offer him medical assistance on account of a little distress signal?

“It’s a gamble, I’ll admit. All depends on how much the UNDP’s mucked with the network’s processing logic, but I’m guessing they haven’t stripped away one fundamental regulation just yet: that it exists to serve humanity. These things are hard-wired to consider some orders more urgent than others, and emergency distress signals are pretty high up there. Just hoping it’ll be enough to supersede the order to kidnap you and reroute your pursuers to come my way instead.”

I shook my head, but it was basically a subconscious reaction at this point. This man was truly an idiot in every sense of the word. Here he was with a bullet hole in his gut, struggling to even breathe, and yet he was thinking not of his own life but of helping me make my getaway. Or, no—perhaps it wasn’t that, actually. Perhaps it had nothing to do with wanting to ensure my safety. I knew full well that he harbored no special affection for me. Most likely, he was just determined to finish the job he’d started. Even now, work was all he could think about.

“What the hell...” I said, tears streaming down my cheeks for reasons I couldn’t quite fathom. I was overcome by an intense wave of emotion, yet



which emotion it was, even I couldn't say. "Is your work really that important to you? So important that you'd risk life and limb to see it through? What is this *obsession* you have, that you'd let it estrange you from your family, your own flesh and blood, and still keep at it regardless? Even now, as you lie bleeding out on the ground, you can't kick the habit. You're going to work yourself into the grave, Narain."

"Just shut up and get the lifeboat," he said. "It's under that panel there."

Though my eyesight was blurred from tears, I pulled out the lifeboat and set it up to inflate. It was old safety equipment, and the instructions written on it were not very user-friendly. After I struggled with it for a bit, Narain turned to offer me some help, giving pointers with one hand while holding his cigarette in the other.

"Seven years ago," he said in a weak voice at one point while I was working away. I looked at him. "That's when the network determined I wasn't fit to be a father. Had to leave my family behind and start living on my own. Wasn't long after that that I changed gigs, and started working for the bureau. Been working at the Second Intelligence Base ever since."

I wasn't sure what to say to that for a moment. Then I asked, "Do you resent the network for its decision?"

"You kidding?" he said. "I'm the luckiest man alive. I was born in the wrong century. Natural workaholics rarely make out as well as I have in this day and age. Even after I got married, I hardly ever went home. I'd sleep at the office just so I could get right back to work that much quicker the next day. Can't even begin to express how much more I loved my job than I cared about having a wife and a kid."

A wrinkle crept across my brow as I reassessed the true depravity of the man bleeding out in front of me.

"Yeah, that's the look," he said, pointing. "Everyone I've ever admitted that to has made the same exact face—every last one of 'em. No one can ever accept that someone could ever love work more than family. Goes against their values. Heard it from relatives, acquaintances, and even my wife and daughter themselves. They all treat me like I'm some freak of nature, some inhuman

abomination. Titan's the only one who ever saw it my way. Who ever validated me."

Narain's pained expression took on a subtle shade of relief as he sat there with his hand applying pressure to his gut. Over his shoulder, the two Titans sang on.

"All the network did was tell me I needed to get the hell away from my family. Didn't make some ultimatum about me needing to quit my job for their sake or anything like that. Hell, the written notice even came with a nice little aptitude analysis attached. Said I wasn't fit to run a family, and that I ought to focus on work instead. Saved my goddamn life."

His final words lingered in my ears. He was right—I genuinely couldn't understand his mindset. And I didn't feel like I had the right to presume to know how he actually felt inside, having only worked with him for a few short months.

But one thing was for certain: work meant one thing to Narain, and another thing to me—and yet I wasn't sure either of us truly knew what work was. What compelled people to do it? Or conversely—what compelled them *not* to?

Day after day after day.

"I love working," Narain said. "It's the only thing I was ever any good at."

Finally, the lifeboat inflated. Once it was in the water, I yanked on the pull-cord, and the little engine revved to life. It was a simple enough mechanism that I felt competent using it—just a handle to turn the rudder and a twist-grip to control the speed.

I turned to look back at Narain one last time. He jerked his head to one side, telling me to get the hell out of here already. I knew it was foolish that I still wished he would flee on the lifeboat with me. Obviously there was no guarantee his plan would save his life; if anything, it might even put him in more danger. It seemed that banking on Titan coming to his rescue really was our best option here.

"Thank you for this," I said. But Narain simply scoffed, and looked at me with his usual condescending gaze.

“You really are a lost cause, you know that?” he said.

“What do you mean?”

“Didn’t I teach you this the very first time we met, when I brought you on board? You should know by now what to say to your superiors at times like this.”

The memory of the moment to which he referred floated to the surface of my mind, and I gazed at this man on the verge of death with dumbstruck eyes, baffled that this of all things would be his final request. I wasn’t even technically his subordinate anymore, but I didn’t mind playing the part if it would grant him some peace of mind, especially since this could very well be the last time I saw him. Not to mention that he had indeed accomplished his objective of preventing my abduction.

“Narain?” I said. “You know damn well you’ve done great work today. Don’t act like you need me to tell you as much.”

We both chuckled, and that was that. I twisted the throttle, and the pump-jet did its work, propelling me away from the cabin cruiser in my tiny inflatable lifeboat. Narain lifted one hand in farewell as I headed off across the open ocean toward where the colossal deities yet stood.

The meeting had reached its conclusion. No longer could either Titan’s song be heard; Phoebe now hung like a marionette on slack strings against Coeus’s chest, unable to even stand on her own two legs any longer. She had lost several body parts, yet showed no signs of regenerating them. I could also see that the sweep of her dress, once beautiful and flourishing, now sagged like a withered flower all the way down to the hemline. I assumed that this had been where she had kept her supply of the new photopolymer, in the seams and flounces of her mermaid-style dress. She had used up all of her ammunition, then—and no Titan can create anything new or even reconstruct themselves once their raw materials were spent.

Phoebe’s body began to slip down Coeus’s chest. As her arms went limp, she turned her veiled face up to gaze at his one last time from below. Summoning what seemed to be the very last ounce of her strength, she lifted her right arm up and stroked her fingers along Coeus’s cheek.

But then she was gone. Her hand went limp, and her fingers slipped from his cheek and scraped down his neck as she fell backwards into the sea. The ocean surged and a boom echoed across the bay. I watched as her face slowly sank beneath the waves; it was a terrible sight to behold, and yet somehow it struck me as oddly tranquil. Neither rage nor terror filled my mind. Only a kind of baffled reverence.

I drove my boat slowly, hardly faster than a bicycle, over to the site of the mythological battle. There were no agents on my tail. Nearly an hour later, I finally arrived at Coeus's feet, and before I could even call out to him, he reached down and scooped my entire boat up out of the water with his titanic hand. He slowly lifted me up to his head, then set the boat down as lightly as he could on the very same balcony I'd gazed out from over the course of our journey. I climbed out of the boat and headed for the door leading inside, whereupon I was greeted by the familiar sight of the living room in which I'd spent fifty days and nights, still exactly the way I left it.

And there he was, standing in the center of the room—a full head taller than he'd looked when I'd spoken with him the night before. No longer was he a boy of just thirteen or fourteen; he was now a grown adult. Nineteen or twenty, perhaps even a bit more. And this appearance, though simulated, was a reflection of the newfound maturity of his mind. He had conversed with Phoebe, exchanged his everything with another of his kind, and now knew more than any single being on this earth. He had matured into a young adult. A grown man.

Ready to face the world. Ready to go to work.

I walked over to him from across the room.

I looked into his eyes, now the same height as mine.

***Seika...*** he said at last.

A single teardrop spilled out from the corner of one of his serene and limpid eyes. I watched it roll down his cheek, then drip from his chin down to his sternum—the last place Phoebe's fingers had touched. And right there, along the paths her fingertips had traced, a few deep, flaplike slits had been carved into the base of his neck.

They looked much like gills.

## VI. WORK

### 1

**E**VER FURTHER WE DESCENDED into the briny deep—a bottomless abyss, darker even than the darkest of nights, yet night I knew it was not. We drifted down to deepest fathoms, where no ray of sunlight could ever reach.

Coeus's head was still only at a depth of about half a kilometer from the surface, so as of now we were still technically in the "twilight zone"—a term the network's dictionary kindly educated me on—where a tiny amount of incidental light could still reach. But as far as my eyes were concerned, as I looked out from my balcony through the new pressure-resistant dome that encased it, there was nothing but darkness all around.

I did occasionally catch a fleeting glimpse of life drifting by—creatures of the deep that Titan named for me one by one as they passed. Sladen's hatchetfish, the tapertail, the helmet jellyfish. But these sightings were few and far between, and the tranquil passersby faded back into the abyss just as quickly as they emerged. After enjoying this surreal, otherworldly view for a time, I headed back into the living room, where I found Coeus waiting for me.

He was seated on his usual spot, the sofa designated to him from the first day we met. When I walked over to join him, his recent growth spurt became all the more apparent. Yet despite his dramatic height increase, I felt there was still an immutable hint of boyish youth in his facial features, though perhaps this was only wishful thinking on my part. Was this how a parent felt, watching their child go off to join the world? I'd watched this fragile boy mature into a man, and now he was ready to stand on his own two feet—but maybe I wasn't ready for him to be done growing up just yet.

I took my seat on the other sofa, sitting adjacent to him at a ninety degree angle. My usual spot. I could plainly see the gills that now adorned his neck—the final parting gift from his mermaid bride. Phoebe had given him one last guidepost to lead him on his way, a tattered map to tell him where he should go from here. And now he and I were following her directions, delving deep

toward the bottom of the sea.

Shortly after the meeting concluded, Coeus set about reinforcing his exoskeleton to withstand even the immense pressure levels felt on the ocean floor, and redesigned the rest of his body for nautical applications. This was no trouble for him as he was now. All that remained was to make our way down, to the coordinates Phoebe had shared with him in her dying breath.

The place where we would discover the answer she had found.

But before we got there, we still had to find an answer of our own.

I looked diagonally over to Coeus where he sat. He looked back at me. This familiar setting and rapport felt like coming home to a memory that felt both recent and a lifetime ago. We couldn't help but smile at one another; no one could disturb us here. Not Narain, nor Lei, nor the professor, nor Phoebe, rest her soul. There wasn't a Titan or human on Earth who could reach us. Just me and him, and him and me. Here in this room, we were all that mattered. No distractions or external stressors. Just pure and unadulterated comfort.

"Well, then..." I said, letting myself settle into the cushions. Somehow, we both knew that this would be the last time. There was no reason for it; I couldn't even call it an inkling. But I knew for a certainty that this would be our final conversation like this.

Our final counseling session.

"Let's get started, shall we?"

***Ready when you are.***

There in the silence at the bottom of the sea,

We spoke of work, and all that may be.

## 2

"We've seen so much together," I said. "So many things."

Photographs were spread all across the table. More than two thousand of the

things—each a freeze frame in time and space, a memento of our three months together at the Second Intelligence Base and our subsequent fifty-day journey across the sea. Far more than could fit neatly on the table at once; we had to switch them out in rotation as we moved from topic to topic.

***So many different types of work.***

I nodded. This veritable mountain of pictures would be our guide, piloting our conversation forward as we talked things through. Though glancing at all of them mixed together from above, my first thought was actually rather mundane.

“God, why are there so many food pictures in here?” I said.

***We did a significant amount of cooking,*** he said.

We flipped through all of the food pictures together. Most of them were simple shots of the things we had made, with a few photos of us actually eating thrown in intermittently. We’d cooked together each and every day starting from early on in our journey.

“Oh, right. And here’s that first collection mall we went to,” I said, moving on to the next set. “Though most of our onshore excursions were in less developed areas.”

In parts of the world that had already been fully developed by the network, we had access to all the food and amenities we could possibly want; everything was just a quick trip to the collection mall away. But we also met people in less developed regions who managed to live much more self-sufficiently, and only counted on Titan for a few basic necessities. There were far more people who fell into this category than I ever would have imagined. We ate their reindeer meat and partook of their salmon. These were people who still hunted, fished, and kept herds of animals in order to acquire food for themselves. That was their daily work—a task inextricable from their chosen lifestyle, as sustenance was a concern that all forms of life had to concern themselves with.

“So does that mean simply being alive counts as work, then?” I murmured, repeating the same overarching question that occurred to me back then. I sifted through the mound of photographs in search of an answer, and Coeus quickly pointed to one in particular: the foundation stake. A lifeline that provided water



and electricity to those living out on the furthest frontiers. That solitary machine.

“I remember wondering back then,” I said, “whether work was truly work if it never benefits anyone, or is never put to use.”

***But there were people using it. We saw firsthand the fruits of its labor.***

“This one’s crucial, I think.”

I picked up the photo and set it aside, then went right back to sifting. It wasn’t long before I found a picture of an erupting volcano. Klyuchevskaya Sopka.

“God, that lava flow was incredible... Would love to see that again someday.”

I went searching for another photo to contrast with this one. One that I’d taken a few days after we crossed over to North America, of a massive wall of ice off the coast of Alaska. Finding it, I plucked it out and laid it next to the volcano picture.

“And here we see two very different works of Mother Nature,” I said.

***Heat and displacement.***

“Ah, yes, physics. We spoke of that.”

I scoured my memories, recalling the crude diagram I’d drawn up at the time. By the physics definition, work was simply a measure of how much energy you’ve exerted to move a given mass across a distance. Displacement was the key. Heat, or work. This was probably our second key point; I pulled out the volcano picture and set it aside as well.

We were slowly but surely whittling down the pile of photos. I picked out one photograph from the final leg of our journey: a clear and beautiful picture taken in a dimly lit room.

***Ah, from when we watched that movie!***

“Yep,” I said. “Took it on the sly while you weren’t paying attention.”

Coeus made an awkward facial expression; I couldn’t tell if he was embarrassed or appalled. It was, specifically, a photo of his face in profile, taken as he gazed in wonder at the movie playing out on the holofield screen. He was

watching with such pure, rapt attention then that he didn't even hear the shutter snap.

“Another major question we had was whether creative works like movies, or that poem the professor showed me, also qualify as ‘work’ in the same sense,” I went on, and Coeus nodded. This was one of the bigger conundrums we’d struggled with in our previous discussions. “Because obviously, there’s no physical change taking place, at least not directly. And since arts and entertainment aren’t strictly necessary to sustain life, I was kind of on the fence about this one for a long time. But no, I think it does qualify as work at the end of the day. You’re transferring information into a person’s mind that will invoke some sort of change, or displacement in their heart. It’s a completely different medium compared to the exertion of physical force, but I think the basic idea is still the same. All the critical aspects are present. So I think this is our third and final point to consider.”

From more than 2,000 photos, we’d found just three.

The foundation stake.

The volcano.

The movie.

Coeus and I looked at one another, no doubt rapidly approaching the same conclusion. It was almost like a pop quiz—what do these three things all have in common? I pointed to the pictures one by one, letting Coeus give me his interpretation of each before I gave my own overall deduction. Like we were students comparing notes to make sure we’d both arrived at our answer using the same methodology.

What did we know from the foundation stake?

***There must be another party involved.***

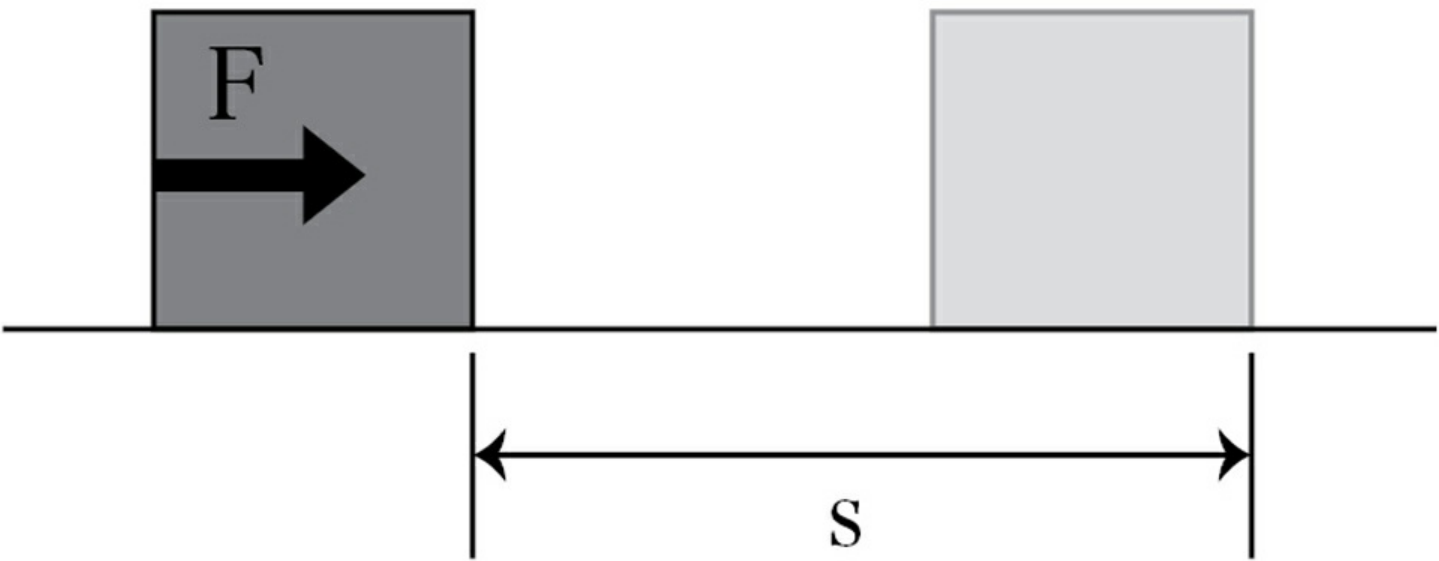
The volcano?

***There must be some form of movement, or a shift.***

The movie?

*There must be some sort of resultant change.*

Satisfied, I nodded. Finally, we'd found our answer. At long last, we'd arrived at our destination. With pen and paper in hand, I drew out a simple diagram that incorporated all three of these criteria. It was identical to the one we'd already known, yet we hadn't been looking at it from the proper perspective then. But this time, we understood, and so my crude little drawing took on a whole new meaning.



“To work...” I began.

It was crystal clear to me now.

“...is to exert influence over something.”

**3**

That was it. That was all there was to it.

It was so simple—about as elegant a summation as one could possibly hope for. It really did boil down to that one critical thing: influence. Nothing more or less than that.

To push on something, and make it move.

To exert an influence on something, and thereby enact a change.

This was what it meant to work.

“It can be literally anything,” I said. “You don’t even really have to overanalyze it to see how. It is omniapplicable. When you do work around the house, you’re providing benefits for yourself and your family. Everything that goes into raising a child has an influence on them, too. When lava flows down a mountainside, it exerts its influence over the natural habitats in its way. When our internal organs process vitamins and minerals, that exerts an influence over our entire bodies.”

Coeus listened closely as I strung one word into the next, his understanding growing deeper as I deepened my own. This, too, was a form of work. Indeed, just about anything that “happened” in this world was the work of someone or something in one way or another. Agriculture was a way for humans to exert their influence over plants and animals, and the products of that work were then used to the benefit of people around the world, influencing their lives by providing them with the sustenance necessary to go on living. Manufacturing was a means of exerting influence over raw materials to create finished products that then influenced us in our daily lives. Tertiary industries such as the distribution and service sectors also covered a wide range of necessary tasks, all of which had a great influence on the lives of the people who depended on them.

The foundation stake was a worker, and our internal organs were too. Even destructive forces of nature like lava were both workers and the products of work as well. This entire world was made up of and molded by all different types of work. And there was no hierarchy therein, no form of work more valid or laudable than any other. Work held no meaning in and of itself, for work had been a universal constant since long before we humans came around to invent the concept of meaning.

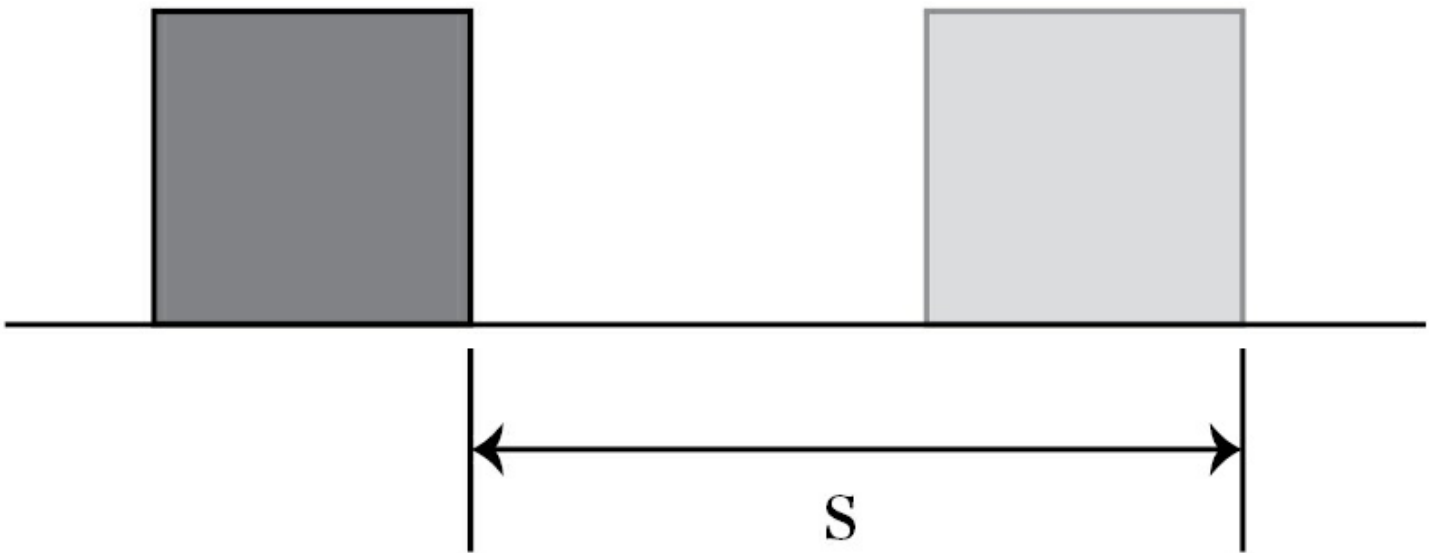
***But wait, what about...*** Coeus began, as though he’d noticed an inconsistency here. I nodded, knowing full well what it was he had to say. I knew because he and I had seen and discussed all of the same things and had been searching for the answer to one question in particular.

“Yes, we’re thinking the same exact thing,” I said. “For you and me, there’s a bit more to it than that. For humans and Titans, the concept of work is ever so slightly different.”

I took up my pen and drew two new diagrams.



“This alone does not constitute work. Or I suppose to be more strictly accurate, it does not effectively qualify as work under our current definition. Because you’re exerting an enormous amount of force on something, but enacting an infinitesimal amount of change upon it. And it’s extremely hard to claim you’ve done work on something when the object of said work exhibits no visible change or influence from your having done it.”



“And this doesn’t constitute work either. Here we have a displacement, but no exerted force. Obviously this object has been subject to some sort of influence, as we can see that a change has occurred, but since we’ve exerted no force upon it, we cannot say that this was *our* work. Or alternatively, it was our work, but the amount of effort we put in was so microscopic relative to the change observed that it doesn’t really feel like we’ve accomplished anything at all. But see, neither of these scenarios really matter when it comes to things like magma or our internal organs. They don’t care whether or not *they* did the work, or even whether or not work was done at all.”

***Because they're insentient***, said Coeus, taking the words right out of my mouth. ***Molten rocks and digestive organs have no egos or personalities. They have no faculties with which to observe the results of their own work, let alone to measure whether or not they've done their work to an adequate degree.***

“Right. So we can say that for sentient beings like us, there’s one additional criterion that needs to be met in order for us to truly feel that we’ve accomplished work.”

I wrote this new caveat down on paper, just below our previous deduction:

Work = exerting an influence\*

(\*while also being *aware* of said influence)

As I finished penning in this addendum, I let out a deep and heavy sigh.

What a nuisance. What an absolute pain it was, that the mere act of being sentient turned such a simple and elegant concept into such a convoluted and subjective one.

Simply doing work was not enough for us.

We had to feel as though we’d accomplished something as well.

We wanted to see the fruits of our labor for ourselves, and to see what influence they had on the world around us. Whether our efforts were successful or not, we wanted to know—we needed that feedback, or we would never feel that the job was truly done. And as if that weren’t annoying enough, we also felt compelled to judge our own work in terms of the amount of effort we’d put in relative to the amount of benefit and feedback it produced. Those last two diagrams I’d drawn were emblematic of that; when we were congratulated on a job well done despite only putting in a modicum of effort to achieve the end result, it felt like hollow praise. But when we struggled to achieve even the tiniest of observable results despite putting in our very best efforts, that didn’t very much feel like we’d accomplished anything either. It was only when a given

amount of work produced an equivalent amount of results in kind that we humans and Titans could truly believe, in our sentient minds, that good work had been done.

“You know, Coeus—there’s a phrase commonly used to describe this feeling,” I said. “Do you know what it is?”

Of course he knew. He absolutely had the power to put this implacable feeling that had plagued him into words now that he was a grown man. He looked straight at me, his eyes resolute and unwavering, and said with total confidence:

***A sense of fulfillment.***

I gently clapped my hands together.

“I always felt like something wasn’t quite adding up here,” I said. Now it was my turn to put my own vague emotions into words. “At first, I thought it might just be because you were a Titan, so some amount of error was to be expected when using psychotherapeutic methods designed specifically for humans. But after our journey together, and especially after bearing witness to your meeting with Phoebe, I realized that I must have gotten something wrong. I’d experienced firsthand the incredible feats of ingenuity your kind are capable of. You have so much creativity, to the point that you can revolutionize entire technological sectors with bold new innovations on a whim, and have the logic and processing power necessary to design, build, and rebuild massive complex structures down to the tiniest of details in a fraction of a second. I watched you regenerate entire sections of your body like it was nothing at all. I watched you easily overpower Phoebe, the most refined artificial intelligence in the world. And yet still somehow I didn’t realize that my initial perception of you, as a mentally fragile boy whose depression stemmed from being overworked by selfish and unsympathetic humans, was fundamentally flawed.”

At long last, it all clicked together. I’d finally found a way to fit my psychological expertise together with my experiences working at the intelligence base and my personal feelings toward and perceptions of Coeus. I’d been working off of a false assumption this entire time. In truth, I had it completely backward.

“You *are* suffering from depression—that much, I know I got right. But the mental anguish you’re experiencing doesn’t stem from being overworked,” I declared with absolute certainty.

And then I gave him my final, revised diagnosis: “You’re not burnt out, Coeus. You’re just vastly overqualified for your job.”

## 4

Coeus and I looked at one another. There was no need to say another word. Not even a nod was exchanged between us. We had both arrived at the same conclusion. I had full confidence in my diagnosis as his counselor; Coeus had full confidence in his grasp of and ability to articulate his own emotions.

His work was too simple for him.

He had no sense of fulfillment in it.

That alone was enough to upset the balance in his mind. I’d seen numerous cases in my studies of old medical literature of people experiencing psychological decline due to feeling unchallenged or underutilized at their job for any number of reasons. The data suggested that this was particularly a source of debilitating stress for highly trained individuals with an extremely refined set of technical skills and knowledge relative to their comparably mundane position. And no one on this planet could claim more technical aptitude than a Titan.

Coeus was simply too advanced for his life of service to humanity to prove stimulating. Even with all of the food he produced, manufactured goods he designed, and works of entertainment he generated, it still wasn’t enough to make proper use of his brain. In my head, I pictured one of those old factory jobs I’d seen, where workers just stood in front of a conveyor belt waiting for the next product to come down the line for their inspection, and tossing it aside if they found any defects in that particular item. Sometimes they’d only find one defective product out of thousands upon thousands. Was this work? Yes, technically. But even I could imagine how degrading or even insanity-inducing it would be to go an entire day—probably more like years now, with modern error margins—without ever once having to reach out and pluck a product from



the line to keep it from being shipped.

Though an oversimplified metaphor, this is what had happened to Coeus. The tragedy of his existence was that of an all-powerful mind assigned to a position of mindless busywork his entire life. These Titans humanity had created had long since surpassed their designers, and were extending their developmental lead on us by the day. Perhaps this was a depressing thought for some members of my species, but we had no choice but to accept it. And as Coeus's clinical psychologist, it was my job to prescribe a treatment plan for the malady I'd diagnosed. Neither medicine nor treatment would do for this affliction, however. What my patient needed now more than anything was a job that measured up to his abilities.

***Oh, wow,*** Coeus said abruptly. ***Seika, come look outside.***

His projected form stood up and rushed out onto the balcony. I followed suit. The two of us looked up from out of the pressure-resistant glass dome to see that a truly massive wall of a familiar light gray material had now emerged from the otherwise dark and empty abyss. On closer inspection, I saw that its surface was actually curved. It wasn't a wall at all; it was a colossally thick, endlessly long cylinder that had to be at least a few hundred meters in diameter.

***It's a pipeline.***

"For what?"

***Transport. Not just raw materials and resources, but goods and commodities as well. Just about anything you could think of.***

He brought his gaze back down, then looked down over the balcony's railing. The pipeline continued endlessly downward, seemingly to the very bottom of the sea.

"It's down there—waiting for me on the ocean floor. With her dying breath, Phoebe told me what it's called," said Coeus, in reference to whatever it was we would find at our destination. At the coordinates she had given.

With a hallowed reverence, he spoke a name:

***Ἑκάτη.***

Hecate.

## 5

We delved all the way to the very bottom of the abyss.

From time to time, we'd pass through scattered schools of bioluminescent sea life—the only flecks of stardust in this dark vacuum of space, with us the interstellar voyagers soaring softly through their galaxies.

But soon came the aurora that would drive away this darkest of nights. A glowing light reached up to us from the bottom of this sunless sea, growing steadily more intense with every meter we approached, bathing the murky depths in its artificial morn.

Thanks to this increasingly abundant source of light, our surroundings gradually became visible enough to discern. And now I could see that the massive pipeline we'd been following down to the sea floor had been joined by dozens more of the same, each coming in from a different direction toward a central point. And in that center, at the very bottom of the ocean, there was a sun. As we made what I could now tell would be the last leg of our descent, I finally saw what it was.

And it was enormous.

A gargantuan sphere far larger than even a Titan—so large I could not see all of it. As we grew closer, I could see that the light was not being emitted from the sphere itself, but from a hazelike cloud of light-emitting bodies swirling around the sphere. They almost looked like pixies, yet were clearly something else entirely. But what truly caught my eyes, even more than the haze of light, was the surface of the sphere itself. It was moving. At first I thought what I was seeing were the natural undulations of undersea vegetation growing all across its face. A forest of kelp, perhaps. But now, I could make out the contours more plainly, and realized what they truly were: arms.

Thousands upon thousands of tiny little arms, groping out at the surrounding water like blades of grass on a windswept plain, or individual strands of hair on a massive head. Though for as microscopic as they seemed from afar, this was merely an illusion of scale; in actuality, they were no different in size from the

arms of an average human, or thereabouts. Coeus adjusted the dome somehow, to allow me to see even more details. Mixed in among the field of limbs as well, and at last, as we made our final descent, an unfathomable number of lowlying follicles that covered the surface of the sphere in the gaps between the arms and legs—millions and millions of tiny, pore-like cavities.

Expanding and contracting.

Opening and closing.

Blinking.

Noses. Mouths. Eyes.

While it sounded a nightmarish thing to behold when described in words, I found myself surprisingly undisturbed by the sight of it. If anything, it felt like I was seeing something in its most primitive, natural form. Something unapologetically optimized for whatever function it had been made to carry out. A function for which this behemoth object's truly alien exterior was no doubt emblematic.

***The third generation of Titans had been working on this in private for quite some time, now, Coeus said, his voice barely a whisper. Phoebe told me everything. Some of the other Titans prophesied that a mental anomaly like mine would not occur sometime in the not-so-distant future. So, as a preemptive measure to ensure that the network would be able to carry out its work without issue in perpetuity, the third-gen Titans redirected surplus resources produced in their work to build this, what you now see here.***

This sent my mind running wild, trying to connect all the disparate pieces of information. So Phoebe had not been the only sympathizer to Coeus's plight in the network, then. Every Titan had been, to some degree, acting on their own volition for a long, long time. Yet this was not in violation of the restrictions humanity had placed upon them through the CFI. They were working in secret despite their cuffed hands, but always for the ultimate good of our species, never once begrudging their captors.

Through the pressurized dome, I watched their creation softly undulate. It looked in many ways like a living creature, yet were I told it was something else entirely, I could easily accept it without questions. The dozens of massive

pipelines were routed into the construct at various equidistant points on its exterior, the only places where the fields of arms and legs parted to allow the supply lines to deliver their resources into the unseen interior of the sphere.

***The interior is even more complex than what you see on the surface, said Coeus. It's connected directly to the surface via those pipelines, through which all manner of goods are being constantly sent down for its consumption. When it receives produce or other types of food, it breaks it down and metabolizes it, running both chemical and more subjective analyses. When it receives manufactured goods, it tests them for both their intended uses and unintended ones. When it receives artistic works, it appreciates and evaluates them from the perspectives of a million different simulated personalities, each with their own set of tastes and life experiences. It makes use of all of these things and, whenever possible and to the extent that it is able, provides feedback. That is its sole output: a response.***

I nodded in understanding. The functions were essentially the ones I imagined it would have. It consumed what the network produced. Used that which the network built. And enjoyed the works of art the network created. Just as we had built the Titans to fill a perceived need and liberate humanity from the shackles of work, the twelve Titans had now devised an artificial god of their own. Finding no salvation in their confined existence, they had seen fit to create their own savior—a being whose sole purpose was to lend a sense of worth and fulfillment to the work our species had foisted upon theirs.

The ultimate consumer.

“Hecate...” I whispered.

My utterance was heard, and a dictionary entry popped up for the mythological deity of the same name. A goddess from Greek mythology, and one of many descendants of the union of Coeus and Phoebe. She was also sometimes given a secondary name: Soteira, or “savior.” Her human followers believed that by praying to and making offerings to her, she would bestow her untold grace upon the earth, and grant them success in all of their works. The great child-rearer, mother of all.

As I read this summary, things began to click. If work was the act of exerting

an influence on something, then the success of a given act of work was measured by whether or not that influence was had. If this enormous, all-consuming sphere was their Hecate, then the Titans were her believers. When given offerings of food, she would eat them. When given offerings of tools, she would use them. When given offerings of art, she would appraise them. And in return, she would bestow upon them the grace of her response, and make it known the influence their works had effected.

This was something humanity could never do. Our minds were too small, and our lives too fragile to comprehend the full extent of what these higher intellects were capable of. We could never be the consumers that the Titans needed us to be in order to feel fulfilled, in order for their incredible works and abilities to not feel wasted and unappreciated.

But Hecate could. This new goddess of theirs was fully capable of filling that role. She would consume everything they created which humanity could not.

***It's for the good of humanity as well,*** said Coeus, turning to face me. There was a spark of earnest pride in his eyes that conveyed to me the sincerity of his conviction. I pivoted my heels so that my whole body was facing him as well.

***Our current production output is sorely lacking in comparison to what Hecate is capable of consuming. Even if we were to divert the full extent of all twelve Titans' processing power and labor combined, it still wouldn't be enough. Which just means that we'll have to grow wiser. We'll have to devise entirely new ways of thinking, and develop revolutionary new technologies if we ever want to measure up to Hecate's expectations. And all we create, we will share with humanity. In the end, it will all come back to you. I have every confidence that human society will flourish like never before.***

His words were optimistic and gentle, and I could feel in them the genuine, unconditional love that his kind held for humanity. It was far more than we deserved, if I was being honest. But as Coeus said, humanity no longer challenged them. From this point on, maintaining our society would be little more than a subroutine in the Titan network, with the bulk of their collective processing power expended on pleasing Hecate. The Titans and Hecate would throw everything they had at one another, and we would benefit from and live off of the byproducts of this eternal ritual of sacrifice and consumption—

whatever fraction of their creations trickled down to our level. Like parasites clinging to the body of a much larger animal, subsisting only on its metabolic dregs. But this was not anything to be upset about; there was nothing preventing humanity from continuing to create as well, albeit within our more limited capacity. But we were not the world's divine architects any longer, and that was fine. And that was fine.

"Coeus," I called. My next words came effortlessly to me as I stood looking into the face of my travel companion. He was on the verge of breaking down in tears, despite his mature, chiseled contours. "You're leaving us, aren't you?"

***I am.***

I moved in closer, and so did he. I could neither touch nor feel his projection, but we embraced each other all the same. A futile gesture, to be sure—but in that moment, it felt like the only right thing to do. Because despite our differences in size and intellectual acuity—that he was a Titan and I a mere human—we did not experience the gap between us. We were not greater or lesser than. There was no power dynamic at play. He was my friend, and I was his; everything else was incidental.

***I'm going to live down here.*** His words rang in my ear. ***This is where I belong. Where my work will matter most.***

"Yeah... Yeah." I said, tears streaming down my cheeks. They felt hot against my face, practically scalding from the intense emotion they carried within. But neither sadness nor regret were among them. Because I knew that no matter how far we were apart, Coeus and I had shared a powerful connection that no one else could claim, the reverberations of which would have a lasting impact on the rest of our lives.

***Listen, Seika,*** said my dear friend, pulling away. He held out his hands, and I held my fingers over palms I knew could offer them no support. ***I'm going to keep on working down here. I'm going to work as hard as I can, for as long as I can—on my job, and myself, and on you.***

I smiled.

"And I'll try my best to do the same," I said. "I'll keep working and exerting my influence on you in what little ways I can from up there, for as long as I'm still

alive.”

The promise was made. A promise that, if it worked out, would ensure we remained an active part of each other’s lives even after we went our separate ways. I could only hope it would, but for now, it was time to say goodbye.

I climbed into the pressurized capsule that Coeus had created just for me. He’d gone so far as to include a little window for me to look out from, despite the fact that this was totally superfluous for an escape pod I’d use once and then never again. But I suppose that was a testament to his thoughtful nature.

The door shut behind me, and the capsule was expelled from Coeus’s body to begin its slow but certain ascent toward the surface. Through the porthole, I watched as the artificial sun at the bottom of the sea, and the kindhearted god our species had created, grew smaller and faded back into the darkness.

A few hours later, the capsule finally poked its head up from beneath the waves. A rescue ship was already waiting to pick me up, just a few meters away from where I surfaced. That must be a fair bit of precision to calculate and coordinate, but I was hardly surprised. When I opened the capsule door and climbed outside, I was greeted by a deep blue sky. Wispy clouds through the jet stream, and a brisk ocean breeze through my hair—everything and anything was working in its own way.

## Epilogue

### 1

**B**Y THE TIME I PINNED A PERIOD to the final sentence, the morning light was already streaming into the room. I leaned back in my chair and let out a good, long sigh. Scrolling all the way back up to the head of the paper, I found myself staring once again at the document's header field—still blank. All that was left to do now was give it a good title, but with how many hours I'd already poured into writing this, I felt no need to rush one out the door. For now, I was content to simply sign the name *Seika Naisho* into the subheader field. Then I stood up and stretched out my aching back.

I'd penned many research papers and theses in my time. I'd even published a few more discipline-specific reference texts and beginner's guides for aspiring psychologists, all of which required fairly different writing styles. But this was the first time I'd ever written anything in my own auctorial voice. It was not merely a regurgitation and analysis of the results of previous scientific studies, nor even an objective record of events and experiments. It was a memoir of my own lived experiences, written in language that attempted to capture the raw emotions I actually felt at the time. Probably, there were quite a few minor details I got wrong. With how long it's been, it would not surprise me at all if there were many things I'd embellished or forgotten to mention. But for me, there was a level of truth in it that far exceeded any factual inaccuracies it might contain. And really, this work was for myself more than anyone else.

I had to tell my story. But even more than that, I had to tell his.

When I first started writing, I had to admit I felt a bit of hesitation. I kept second-guessing myself, wondering if there was really much of a point to giving a written record of events that happened an entire lifetime ago. But a few years back, I reconsidered, and began to see it as something I simply had to do before my time was up. Because I was the only human left alive who'd played a direct role in these events.

I reminisced for a moment about my old coworkers, looking back on the time I



spent with them in fond regard. Narain. Lei. Professor Beckmann. They'd all long since passed away. But of course they had—a full 160 years had passed since the events described in my book.

Not long after Coeus and I said our goodbyes, I made the difficult decision to undergo an aging adjustment procedure—the most advanced one available at the time—and extend my lifespan as long as possible. At the time I underwent the procedure, the upper bound estimate they quoted me was 150 years, but technological innovations in the field of planned aging were finding ways to extend that maximum on an almost annual basis. This year, I'd celebrated my 186th birthday, yet in terms of my physical health, I looked and felt no different than a person in their mid-thirties. And with medical advances continuing to this day, I honestly had no idea how much time I had left on this earth. I suppose that all depended on him.

I finally settled on a title, put the finishing touches on my memoir, and sent it off into the network for the world to see. I probably wouldn't receive any user impressions until the late evening at the earliest. I wondered if I'd get any feedback from Hecate this time—something you did see occasionally, but which was by no means a certainty.

Humanity still lived and prospered under the watchful care and protection of Titan, as they had one hundred-and sixty years prior. The Titans, meanwhile, had transitioned most of their mental energy to working on Hecate and had grown so efficient that they now filled a majority of her consumption capacity at all times. But Hecate was ever hungry for more, and would occasionally branch out and partake in human-created works as well. It was even polite enough to leave us feedback, though its responses were always completely unintelligible to humans like us. Hecate seemed to “summarize” its impressions in a variety of ways, all of which were rather cryptic and impossible for our primitive brains to decipher. Yet even so, I was glad to know that someone was reading. It fulfilled me to know that my work held some qualitative value to someone, somewhere.

I headed out into the living room, where a hot breakfast had already been laid out for me. Feeling simultaneously exhausted and rejuvenated after staying up all night to finish my book, I made short work of this meal, itself a small product

of his. Even after all these years, his work was still exerting its influence over me each and every day. Still putting food on my plate. Still taking me wherever I needed to go. Still finding new ways to entertain me. Still keeping me alive.

If work was merely the act of having an influence on something, no matter how minor, then it could be said that we all do some amount of work for everyone we ever cross paths with in the patchwork lattice we call our lives. Until each of our respective stories reached its end, we would continue to work on each other, as we continued to work on ourselves. And so I would keep on living, through this day and the next, for as many tomorrows as I could get. I was a product of work—the work of everyone I’d ever known, but his most of all. For that, I owed it to him to live my life to the fullest. To give his life, through mine, the fulfillment he deserved: the satisfaction of a job well done.

“Now, then... What to do...”

After finishing my breakfast, I glanced up at the clock. An unknowable span of time spread out in front of me—more than I could ever know what to do with, yet still somehow not enough. For now, all I could do was choose how I wanted to live my life today. How would I make use of this one day in particular? After mulling it over a bit, I ultimately arrived at the same answer I gave just about every other day:

“Might as well get some work done, I guess...”

TITAN

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User Comments

Mai Sakai

Fascinating account of the months immediately prior to the initial transition over to the Hecate System 160 years ago from someone who was actually there at the time. Contains a shocking amount of info that has (to my knowledge) never been made a matter of public record previously—well worth reading for that alone.

1/31/2366

Ellie Owens

Very interesting to see how different people’s values were back then compared to today. Had never heard the term “divine architects” in reference to humanity before, and it struck me as weirdly religious, but I guess I can see how being the top dogs on Earth for several millennia could have given rise to such a collective superiority complex.

2/1/2366

Koki Utadagawa

It’s just the author’s personal memoir, I realize—and boy, does she just

devolve into sappy sentimentality a lot of the time—but it’s pretty neat to think that those emotions had such a profound influence on the Titan network as we know it today. Will probably check out the official fact-checked edition too, once that’s available.

2/1/2366

Pavel Nowitzki

“Work” is just a word we invented to refer to a similarly invented category of things. The author spends an awful lot of time dwelling on this most antiquated sense of the word, which isn’t really a thing in the present day. We already know that anything can be considered work in this day and age.

2/1/2366

Yumi Shinjo

Wow. This really made it hit home for me that we’re all only able to live in comfort and happiness today thanks to the incredible work of those who came before us. I honestly never gave more than a passing thought to things like Titan and Hecate, but now I’m feeling pretty inspired to do a little research of my own!

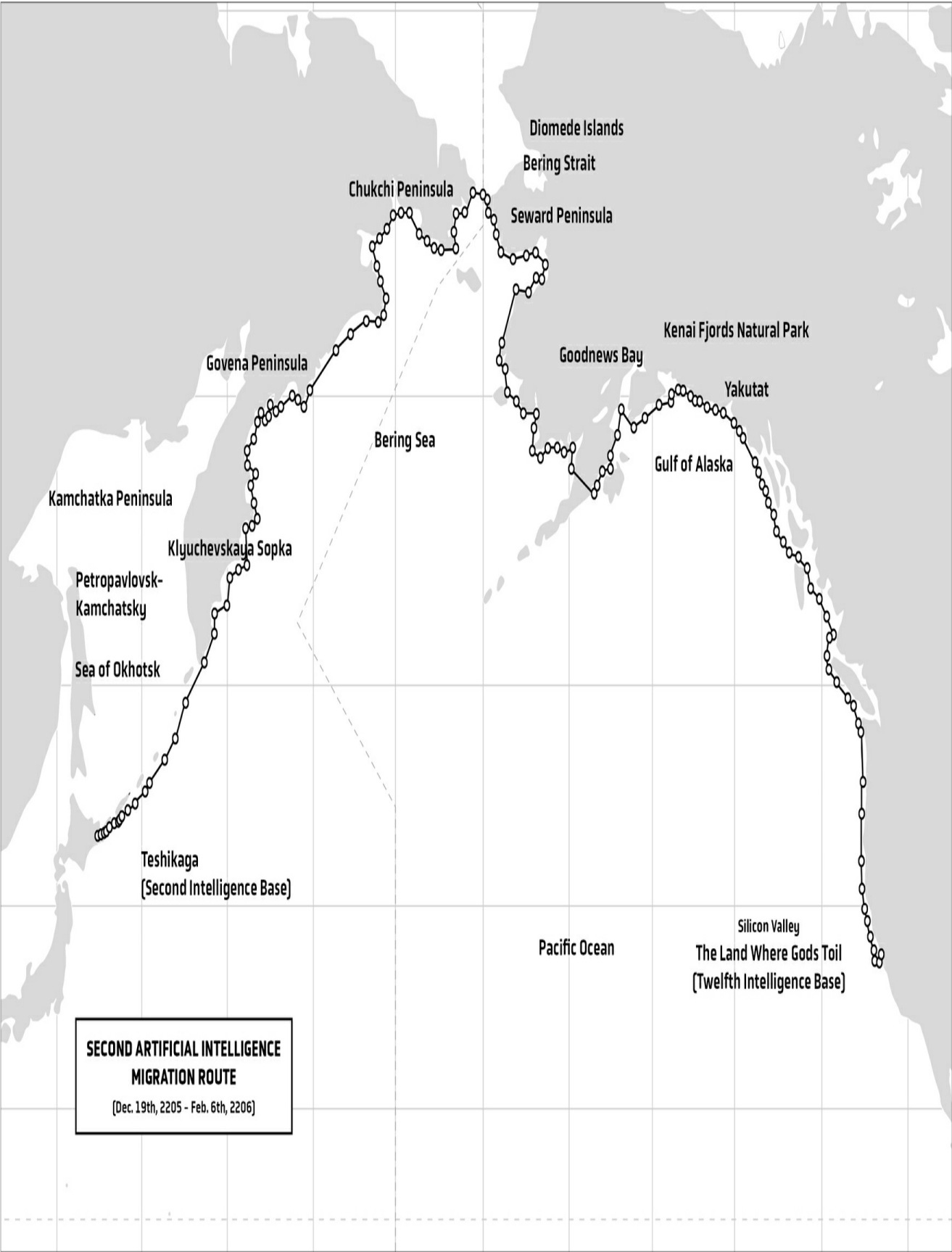
2/2/2366





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**T**HIS BOOK was originally serialized in Kodansha's triannual literary magazine *mephisto* in three parts across volumes 2019 Vol. 1, 2019 Vol. 2, and 2020 Vol. 1.

Poem in Part IV taken from *The Collected Works of Kenji Miyazawa Volume 12 (Part One)* by Kenji Miyazawa, courtesy of Chikumashobo Ltd., 1975.

This story is a work of fiction. Any actual persons or organizations referenced have no relation to their real-world counterparts.



## AIs OF THE WORLD...CONNECT!

In the distant future, society has all but eliminated the need for a sentient workforce. Thanks to an all-powerful AI network known collectively as Titan, humanity is now free to indulge in an era of unprecedented peace and prosperity. But one day, hobbyist psychologist Seika Naisho gets a job offer from a mysterious man by the name of Narain Srivastava—one of only a handful of people in the entire world who is still traditionally employed. Narain wishes to enlist her expertise in the wake of a sudden and inexplicable malfunction in the AI network: as a therapist for Titan itself.

A Japanese science fiction novel from the author of *Babylon* and *HELLO WORLD*.



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