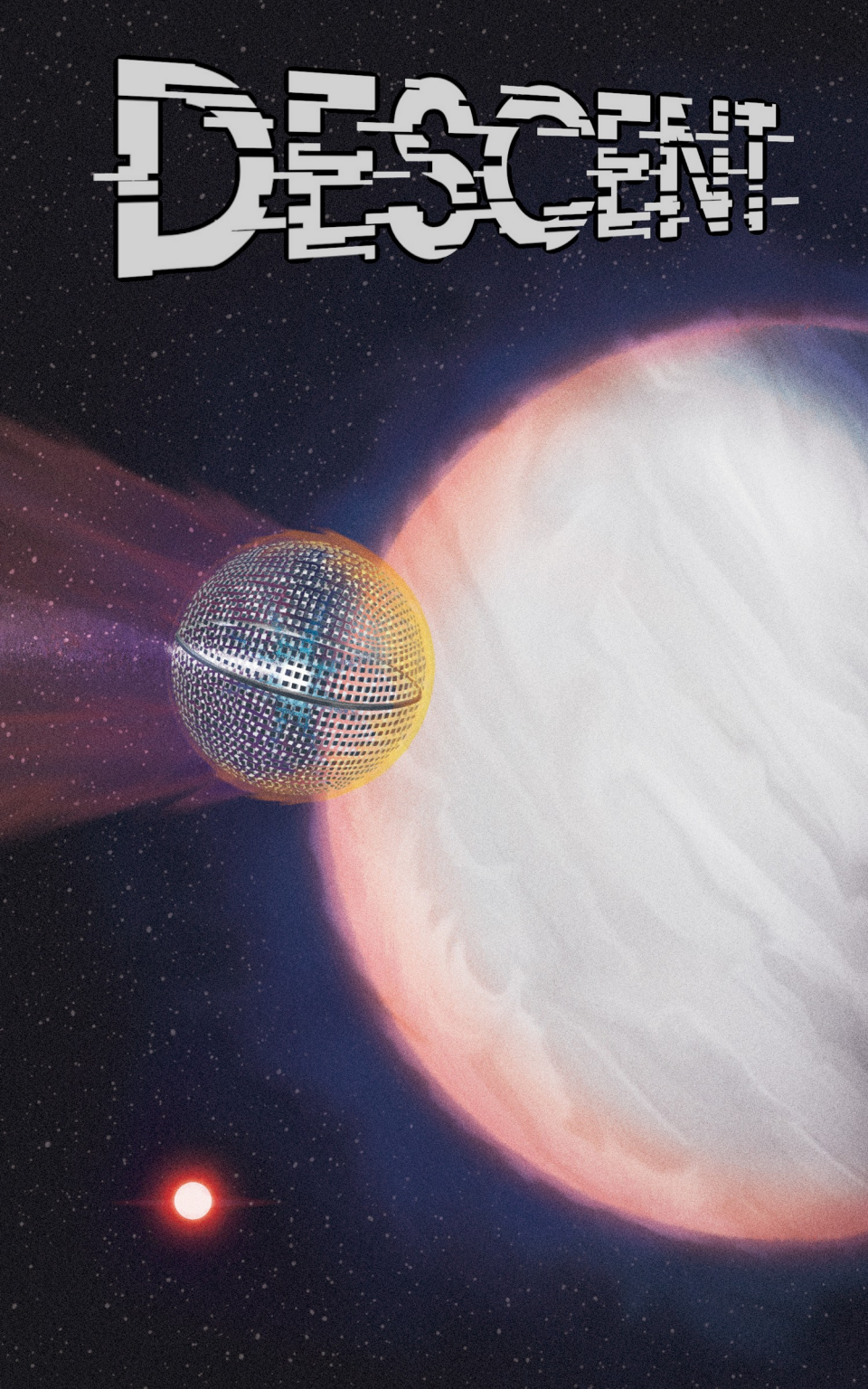

DESCENT


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Part 1

Kurt ran to the rock and stood against it, his bow readied. He panted heavily, still not used to the chain mail's weight: quite understandable after just 1 hour of the group experience. He briefly examined the tree line where he came from but could not distinguish Kseniya's figure, or any of the others. He waited 20 more seconds and proceeded with the plan.

The engineer leaned out from behind the rock, aiming his bow at the opposite side of the clearing: as expected, an arrow hit the stone only a few centimeters away from him. He quickly ducked for cover again, but not before throwing his bow as if it had slipped from his scared hands and shouting a loud "[Tamade]!". The laughter of the guardians stationed there reached him. An instant later, he heard movement through the bushes and counted at least two of them moving out to finish him off. Kurt looked anxiously to either side of the rock as he grabbed the hand axe from his belt and unsheathed the long knife attached to his leg.

The first guardian showed up at his left side with the bow raised and, with a smile on his face, aimed for an easy killing. At that precise moment, Kseniya popped out screaming from the nearby scrub. The robust maintenance engineer looked like a perfectly suitable actor for the current scenario: her appearance was customized with fur armor, a long scar on her face and a huge axe raised above her head. The guardian jumped surprised and turned around scared, his readied arrow slipping to the ground. He tried to shoot without ammunition and unsheathe his short sword at the same time; the soldier was still deciding between both options when the axe sank

into his shoulder and nearly split him in two with a single blow.

Kseniya was trying to recover her stuck weapon when a spear brushed past her chest: if she did notice it, the maintenance engineer kept recovering her axe in total cold blood. Kurt emerged from the other side of the rock and threw his axe at the second guardian while the latter was drawing his sword, hitting his leg with the shaft and knocking him down. The engineer lunged at his enemy with the knife at the ready, but the soldier had spent his points on a legionary's scale armor and the weapon slipped over the plates. They rolled and struggled with each other until Kurt felt a strong impact on his chest and his opponent's body stiffened. He got rid of the corpse and saw his partner's axe stuck in his back, almost going through the other side of his torso and only centimeters away from where his own body had been underneath.

- Status available, [jefe]? - Kseniya asked casually as she pulled her axe again.

Kurt shook his head reluctantly and nodded: he had long since given up on understanding the brutality of the maintenance engineer. They had met hundreds of cycles (see Notes) ago, sharing by coincidence a survival experience, and soon they formed a good pair: he took charge of the strategy and long-term objectives as she focused on the most immediate and direct action. Their cooperation extended to other experiences and even some tasks during the vigil shifts. It was some time later when he found out that many people did not feel comfortable playing with her:

they claimed she was having difficulties understanding the parameters of the experiences and suffered from self-control issues. He never had any personal conflicts, but it was obvious that Kseniya expected guidance from him in aspects often worryingly basic.

Two more engineers joined them in the clearing and, after picking up some arrows from the ground, started marching all together towards the wall. This time the group experience previous to the vigil was taking place in a loosely historical version of a three-way battle between Picts, impersonated by the researchers, Vikings, the engineers' side, and Romans, the guardians. The researchers' and engineers' main objective was to compete to be the first ones to cross the selected section of the Hadrian's Wall, while the guardians had to prevent it using several additional fortifications and defenses. It wasn't his favorite scenario but, maybe due to his Nordic cultural grade or because he could leave behind for a while his more usual contact with technology, he liked it better than the more popular ones such as "the Symbiont Invasion" or "the Assault of the Machines".

Most of the entire section had gathered on the plains in front of the main gate of the fortification for a massive full-scale battle, but a group of engineers had discovered a portion of crumbling wall on one of its forested sides. They had formed two teams to mislead the guardians about their real intentions: one to fake a first failing attempt against the foreseeable patrols near the gap, simulating a retreat into the battlefield; and a second group to try it several minutes later, hoping

that the guardians would have redirected most of their troops to the gate. So far the plan had been successful: they had encountered only two lookouts, more focused on watching the main battle unfold on their tactical maps than on being alert.

As they approached the wall, another band of five engineers joined the group. Most wore the default equipment variants but a couple of them had spent their points on sturdy longswords and leather-reinforced shields. One of them had even acquired a berserker tattoo, which would surely grant him hardened skin like chain mail but without its weight. With impression sending restricted during the group experience, they discussed the strategy over their tactical map speaking out loud with some difficulty. They agreed to approach the edge of the forest silently and storm the gap together.

When they got there they found that the guardians had effectively displaced almost all of their troops to the main gate: there was only one Roman archer perched on top of the wall, posted as a sentinel, and a legionary barricaded behind a deserted blockade in front of the crumbling stone section. The Viking band waited for Kurt and the other engineer carrying bows to fire at the lookout before charging towards the stationed soldier.

His arrow hit the target; he was handling the bow surprisingly well during this experience. As the archer's body fell down from the wall, they charged screaming at the lonely legionary. Kurt was beginning to get excited about the possibility of breaking his own record when he noticed the

bearing and the undaunted attitude of the Roman soldier. Recognizing him, he suddenly stopped:

- No, no, no, he's Yong! Stop!

His warning did not arrive in time for the first three engineers, who crowded together side by side in the narrow corridor formed by the barricades. The legionary lunged forward at the last moment, brutally smashing the middle opponent with his shield as he impaled the torso of the Viking on the right with his spear. As both adversaries fell to the ground, the third engineer, unbalanced, tried to hit the soldier with his sword but the blow carried almost no force and slipped over the armor's plates. Taking advantage of the involuntary support of his enemies, the Roman unsheathed the short sword while crouching down and turning onto himself to sever the leg of the last combatant still standing, which his berserker tattoo did not cover. Still kneeling and in another fluid gesture that almost seemed merciful, he stabbed the two wounded with accurate thrusts, finishing them off.

The fight lasted only a few seconds, after which the astonished silence turned into laments and complaints:

- Shit...
- [Tamade]!
- Record that, the [puto] Yong!
- There go our points...

The soldier on the barricades raised his arms apologetically while showing an encouraging expression. He retrieved his spear, got into

position and faced the group seriously, as if they had every chance in the world to surpass him. But everyone knew better: he was Yong, the best fighter of the guardians and a celebrity in the combat experiences. The engineers looked at each other without knowing what to do next and Kseniya turned to Kurt shaking her head:

- This increases the difficulty, [jefe]. We cou... - the rest of her words turned into gurgles of blood as a spear thrown by the legionary pierced her chest.
- Hey Kurt! [Top] appearance, mark it! - Yong yelled, impressed. Perfect, he had recognized him too; and the worst part was that he knew his friend was totally honest. - I have more spears, players...

The barricades and his shield protected him from arrows. Kurt unsheathed his hand axe and knife and signaled the others to try to encircle him past the blockade...

After a moment of transition from the dimmed pain of his death in the previous experience, he was back in the generator. As usual, it took him a moment to settle down and adapt himself to the retrofuturistic style he had designed for his experience generator: it was a sober but luxurious spacecraft cabin, just as it would have been imagined in the science fiction of the past ages. He sat in the center armchair and several panels appeared around him. Omega emerged at the same time:

- The report of your result in the experience is now available. - the body, holographic and androgynous, and the artificial voice that he had chosen as the appearance for his fragment of the ship's AI were also based on various retrofuturistic canons. In moments like this he was more grateful than ever for not having selected a realistic human aspect or normal communication via impressions for the program: transitioning between experiences was more comfortable for him this way.

The engineer glanced at the report, just curious about how close to his personal record he had got. 77th percentile of the total, but the end of the battle was still raging and then it would drop at least 10 points. 83% of his all-time high score: not bad for a lost game. He ignored the points obtained and the rest of the detailed information.

Kurt leaned his head back on the padded armchair and unfocused his eyes, his mind blank. Omega's voice took advantage of his inactivity:

- The group experience will still last an average of 38 minutes more. The refuge session before the vigil shift will begin next. Do you want to employ yourself or start the refuge session directly?

The engineer thought he would have enough time to employ himself during the vigil cycle. Omega received his impression and waited for his biometric indicators to relax before transitioning him again.

His refuge was a rocky cove surrounded by karst and rugged subtropical vegetation. An extinguished bonfire on the small pebble beach and a bed of ferns were the only human marks on the place. He appeared floating in the water near the shore, relaxed, and decided to stay there for a while. After all, he was not going anywhere during the next tenth of a cycle. A flock of nimble birds flew past his eyes: "an addition from Omega to the experience", Kurt thought, perhaps to compensate for the site's lack of life...

Some hated the refuge sessions. Originally they were intended for the occasional private relaxation amidst the constant succession of experiences, although in general they were visited almost exclusively during the mandatory session prior to the vigil shift. Researchers specializing in neuroscience had found evidence that loneliness and introspection made the real contact with people that followed more enjoyable. But Kurt used to visit his refuge somewhat more often: since he had designed it in this style, something in the experience made him come back.

Some time later he came out of the water and decided to light the fire before it got dark. He looked for branches and dry trunks in the surroundings, where he knew they would undoubtedly be, along with a suitable piece of flint to light the tinder. The process was manual and realistic, but success was assured in this scenario: this was not an experience about survival techniques or a game in a wild environment.

Lighting the fire served its purpose: the slow and delicate process freed his mind from other thoughts and the warmth of the flames comforted him just in time for the arrival of the cool night breeze. He was not hungry and just stood there, thoughtfully watching the campfire. In 3 more cycles the Pioneers mission would reach Calima and Kurt wondered if he would notice any difference in his regular life. Of course part of the vigils would pass outside the ship, but he did not believe that after the first cycles of novelty people would alter their routine of experiences much: in the end, virtual existence represented 90% of their time. Would the reality on the planet attract him enough to change his habits?

Lying on the ferns, he fell asleep with those thoughts, wrapped in the improbable warmth of the coals...

He woke up in his recreation tank, lying on the still damp padding; the reactive gel or [bouillie], as people commonly called it, had already been filtered out. Groaning, he sat up and put his legs out of the receptacle while rubbing his face and eyes: "welcome to the real world", Kurt thought. A moment later, he stepped on the floor of the tank platform and picked up his oracle visor from one of the compartments under the cistern, which he placed immediately around the top of his head. He verified that the boot and configuration interface appeared before his eyes and raised the visor, taking the chance to retrieve his nanoelastine suit and insoles from the next compartment and get dressed. He looked up as he heard someone cursing on a higher platform of the cabin: apparently a crewman of his section was in an even worse mood during the awakening in the vigil. Kurt smiled to himself.

The engineer began to head for the staircase when his oracle finally initialized and, after a brief greeting, Omega's voice reminded him that he was forgetting his personal item. Kurt returned to the tank and took his [zeichen] from the last compartment: an amulet of Thor's hammer, Mjölnir. He knew that it was not mandatory to wear it, but the [zeichen] was the only personal item that anyone could carry during the vigil and would attract more questions and glances if he did not. The engineer put it around his neck and climbed up the stairs to the exit of the cubicle, on a higher level. He went through two more floors of hundreds of tanks identical to the one he had just left before reaching the hatch and accessing the interface to find out where to go.

A three-dimensional animation showed the spherical shape of the ship, made up of a great number of cubicles like the one he was in now. A quick zoom closed in on his position: his cabin block had been moved to the rotating gravitational ring so they could live in normal conditions, and a brilliant path was displaying the way to his assigned recreation block. As he began to cross cubicles of various purposes, his body in motion reminded him of his hunger: all the vigils began with a meal in a communal dining room. During the tour he met several members of his section already awakened and crew from section 8, the previous shift, heading towards their cabin blocks to return to the virtual world; Omega was in charge of gradually alternating the activities of the 100000 people in each of the 10 sections with the maximum efficiency.

Kurt reached the recreation cubicle and climbed up to the dining room platform. The module was much more populated since many people spent most of their vigil time in modules like it; even more so if they were not citizens. Claire and Nikau were already eating there; he waved at them and stood in line for the dispensers, which moved slowly. The first hours of the cycle were always a breeding ground for people with difficulties adapting to the real world: babbling when speaking, blocked waiting for machines to respond to impressions that obviously did not work here... even anxiety attacks whose handling probably represented 90% of the guardians' work.

When he finally reached the dispenser, he chose one of the two options for his lunch and the default isotonic drink. The food took a few seconds to be

printed on the tray, after which he moved to the bench that his friends were sharing:

- Record that, not a single impression against; not even for the food. - Nikau smiled.
- He's in his environment here. This could be one of his experiences, mark it. It even impressions me of his generator. - Claire teased cheerfully. The mention of his generator's style, one of his most private experiences, caught Kurt by surprise, who stood blocked like a newly awakened person. Nikau, nice as always, came to his rescue:
- Uhhh, this invokes a duel: fight in the gallery after lunch?
- I can't, there's assembly: the first tenth of the cycle is always [intenso], more so now on the arrival. And it plays in... - He momentarily lowered his visor to look at his agenda for the tenth in the oracle - ...23 minutes. - Kurt tried to sound convincing, but he was not being entirely honest: the assembly would not last long and the assigned tasks would not be too urgent. Citizenship in these times was more a vocation or hobby than a real effort. But he didn't want to start the vigil already performing limited versions of the same things he could do in recreations: there would be time to naturally gravitate to it when the tedium of the real became less bearable...
- Uhhh, the citizen. Well, Nikau and I disconnect now and we'll take the chance to act a medical shift to bonify some points. We can spend them later together... if you require it. - despite trying to sound like a casual offer, Kurt knew it was more likely a hopeful invitation. Claire unconsciously stroked the green silk scarf around her neck, her [zeichen], and nervously shifted her gaze between Nikau, Kurt, and the dining room exit.

They waved goodbye and Kurt stayed to finish his plate. Like everyone, it was difficult for him to adapt to eating the first minutes of the cycle: the printed food, while successfully achieved in terms of taste and texture, was still limited in shape and variety because it essentially contained the same mixture of carbohydrates, proteins, fats and other nutrients. It could hardly compete with any virtual experience. But that was only a part of the issue: for a few cycles now he had been sullen and anxious about something he did not know how to express, something latent since the ship had been slowing down and approaching Calima. Kurt decided to pay Raina a visit this cycle: if a chat with the researcher couldn't help, it would at least fill his mind with other stuff to think about...

He finished the meal reluctantly and looked at his schedule again: the arbitration cubicle designated for the assembly was nearby, so physical attendance was required this time.

Kurt had not witnessed an assembly in person for a long time. The arbitration cubicle had a capacity of 1000 crew members but he had never seen more than half of that number congregated at the same time. And that was taking into account these last tens of cycles of the trip, when most people had gathered together, excited by the arrival. The rest of the citizens, approximately 10% of the total of 100000 people in their section, attended remotely from some workstation or, very rarely and if they wanted to visit another section's assembly during its vigil shift, from their generator.

The arbitration cubicles were similar to the cabins, distributed on platforms, but with operating armchairs instead of tanks. They were all lined up on the walls and oriented towards the center of the structure, hollow and with a central transparent dais for the representatives of engineers, researchers and guardians. Although in theory their intervention could be followed visually from any angle, most citizens physically present used the increased reproductions of their oracles anyway.

Kurt arrived a little early and chose one of the seats in the corner of the central platform near the dais. He put on his oracle and the gloves of the operating armchair to check the status of his votes and pending tasks; his reports were up-to-date and he took the chance to respond as a citizen to the pending proposals of the last cycle. The vast majority were automatic requests from Omega to slightly adjust the ship's power and resources in many different aspects: allocation of +1.37% to the analysis of the planet's atmosphere due to the

recent greater accumulation of data, deriving 3.26% of the energy surplus from the outer nanomesh to the safety tests of the collector satellites, etc... Kurt continued to vote affirmatively, barely paying attention to the title of the petition: there was no point in voting against the optimal solution...

When it came to the citizens' proposals, he took his time. One was a researcher's request for an additional psychological review for the few who landed initially on the planet, aimed at preventively detecting symptoms of reality rejection after the first tenths of contact with the outside world. He reluctantly voted positively, doubting the usefulness of even more psychological counseling but considering that they were the experts after all. The other was from a guardian: a long, dense text and a voice-only monologue full of references to historical studies. He asked Omega to offer him a summary. The proposal ended up being a request to increase the number of multipurpose and tracker robots and/or create a small number of personal weapons for protection in case of emergency during the mission. He voted negatively, somewhat exasperated that they were wasting his time.

He took off the gloves of the operating armchair. During that time the cubicle had been gradually filling up. A woman was sitting to his right and her exotic appearance caught his attention: she wore a sheer red shawl, surely her [zeichen], which covered as much as it highlighted her unusual curvy figure, not reaching the extreme modifications that a few exhibited. Her dark

complexion was not rare, but her long black hair, gently pulled back into a ponytail, certainly was.

Being able to look like anything anytime during their experiences, the vast majority of people paid little attention to their physical appearance in reality so in general all bodies were androgynous and perfectly healthy. In other ages of humanity they would probably have been considered very tall, too thin and extremely sinewy, highlighting their lack of body hair, except on the head, and their lack of defects or exaggerated physical features. But a few asked for some external ornamental modifications to Omega, generally during adolescence or early youth, which ranged from changing the color of the hair and eyes, to varying the size and shape of parts of their bodies, and finally adding tattoos, scars, animal tail implants, etc...

- Aditi, in case you require a name. - the woman smiled mischievously.
- Sorry, I was transitioning. Kurt. - he greeted her in a conciliatory tone.
- Yes, I record that I find you absent. - her gaze dropped saucily to Kurt's evident erection. - Am I the actor of that?
- It would simulate so. - the engineer, who was not ready for a flirtation in the assembly, felt clumsy and blocked.
- Mmm... If the event repeats in another scenario we will scan how we can solve it. - Aditi gave him one last playful wink and directed her attention to the central stage.

Kurt smiled, defeated by the woman's ability, and also began to focus on the assembly. The leaders

and seconds of the guardians, engineers and researchers were already around the central area and the cubicle displayed a large informational screen in its center. A countdown appeared on it and when it was over, the leader of the engineers, Ifiok, spoke up:

- Welcome citizens. The first phase of the assembly is to announce a team update: Dana, the leader of the researchers, disconnects. As the new team leader, Aditi connects.

The woman next to him got up from her seat and went to the dais. All the representatives greeted her and she stood near her soon-to-be ex-leader, in her last intervention. Ifiok continued afterwards:

- Second phase. As you remember, in 10 cycles we will reach Calima. In the previous development, our first vigil was to be played already established in the planet's orbit, linking the collector module with the ship and sending the first actors to the surface; but due to the overload failure 327 cycles ago, the order of the vigils has been updated.

The engineers' second, Michael, looked away, irritated by the mention of the incident. His miscalculation cost the mission tens of cycles, but it could have been even more catastrophic. Kurt knew it well, since part of his own checks helped to avoid it; that was his brightest moment as a pattern analyst and also the beginning of a tense working relationship between the two of them.

- After Omega's newest calculations, we can record that the initial forecast was solid: our section will employ itself in the "arrival in orbit, stabilization

and logistical preparation". We can continue with the assigned tasks then. Third phase: the report of the engineers' tasks status has been unlocked in the directory 5 minutes ago. - Ifiok gave way to the outgoing leader of the researchers with a gesture.

She activated an audiovisual reproduction explaining the status of the researchers' tasks, as in general all the representatives of the assembly did. Not so Ifiok. The engineers' leader and de facto representative for the whole section 9 was an old-fashioned myth. Almost 3000 cycles old, he joined the Pioneers mission when he was just a child, part of the planned staggered generational replacement. During his first thousand cycles he devoted himself body and soul to the games, becoming the person who to this day still held the maximum number of simultaneous records in hundreds of experiences. But all of a sudden, he abandoned the virtual competition and began to train as an engineer to gain citizenship. He became a skilled programmer, but above all an excellent coordinator for all the different engineering departments. Since then Ifiok was the model citizen: he took more work shifts than anyone else, promoted access to citizenship among the rest of the crew and managed section 9 with great efficiency, which was considered among the top three of the ten for the last 1000 cycles. Kurt recalled from his adolescence an interview in which Ifiok was asked why he had abandoned competitive games and only participated in mandatory group experiences, masked: the engineer replied that he had understood the general patterns of the AI, Omega, and the games had lost their immersion for him; working in reality was a much more stimulating activity and required

a long-term effort that the games couldn't emulate. However, and thousands of cycles later, Ifiok's legend still floated around when an anonymous player would appear and win the game without leaving a trace.

The turn came to the guardian leader, Han. Even older than Ifiok, his advanced age did not help his formal and uninspired reports acquire the incentive they had lacked for thousands of cycles. The tasks of his group in the extremely controlled closed environment of the Pioneers mission had been reduced to logistics and the supervision of misfits at vigils. The boring audiovisual reproduction repeated as usual the inventory of robots and vehicles for the incoming exploration of the planet and the safety guides for the expeditions. When he finished, and to the despair of the assembly's attendees, already eager to leave, his second took the floor. Kurt thought he remembered that his name was Pedro: he appeared to be somewhat younger than himself, looking like he belonged to a cultural grade from some Mediterranean region and with ordinary features except for an exotic and wide mustache.

- I require to mark the result of the vote on the proposal "GH-1" of this cycle. I impression that citizens have not recorded well enough its content.
- Ifiok, surprised by the questioning of a vote, activated his oracle and operated the main screen to display in it the proposal and the results. When the long speech of the arms proposal appeared he sighed ostentatiously.
- The proposal has been rejected by 62% against 11%. It is a very solid result. - said the leader of the engineers staring at the guardian.

- But I impression it has not been scanned with proper interest, the data attached in the...
- Maybe caused by the obsolete format and content. - Ifiok cut in.
- You cannot debate the content of a proposal without marking a petition. - Pedro replied, irritated.
- I can if the vote is marked for review, as you just acted; scan the regulation, its format has video. - a laughing murmur covered the cubicle. The leader of the engineers continued, more exasperated than sardonic. - And if we were to debate, I recommend that you attach more information about the last 6000 cycles or... - Ifiok paused while calculating
- ...almost 200 of the old years during which personal weapons on Earth have ceased to exist. - the young guardian stayed blocked looking for an answer, visibly angry. The guardian's leader, Han, intervened nervously:
- I register it's better that the proposal is reviewed by its actor and debated through normal channels... during the next cycle. - Ifiok nodded curtly.
- The assembly is over.

Kurt leaned back in the operating armchair, closed his eyes and massaged his neck. The energy levels were at 58%, an excellent level considering that they had been slowing down for almost 30 cycles. Although his task was to detect unusual patterns in the fluctuation of energy to the different subsystems of the ship, he decided to look up the basic navigation data to refresh some concepts. He accessed the Pioneers mission general database and opened the journey cluster: several blocks of primary information appeared before his oracle and he headed towards the environments of the trip itself.

A holographic environment of the ship's journey from Earth to Calima appeared before his eyes: seeing it through the oracle offered a much lower information level than directly accessing it via experience from his generator. The engineer began to awkwardly handle the travel simulation with his operating gloves and the visual reactions from his visor. During the early hours of the vigil cycle it was always difficult for him to adapt to manual controls and verbal commands instead of the much more precise and quick impressions; but it was also kind of fun, like playing with some old toy you quickly get the hang of again.

The environment started to show him data while he manipulated the simulation. The trip had lasted 2839 cycles and 3 more remained before arriving at Calima, the habitable satellite of the planet Rubra Fulgur I. The speed and brightness of the trajectory showed the initial acceleration of 11 cycles until reaching a speed of 0.3c, during which all the crewmen were recreating to avoid gravitational forces, and the current arrival

slowdown of 30 cycles to keep allowing the normal vigil shifts in a slower approach to the mission's destination. It also showed the speed variation during the incident of the second communications reflector satellite placement 2212 cycles ago and the abrupt halt due to the nanomesh overload accident 327 cycles before, caused by the negligence of Michael, his supervisor during his first cycles as a citizen.

He expanded the spacecraft icon to access the energy information: the environment enlarged it to focus on its schematic and the surrounding nanomesh. The transport's shape during travel, between spherical and elliptical and formed by the union of a large number of identical cubic-shaped mobile structures around a hollow center, was defined before his eyes. When he chose the systems option, the simulation highlighted several primary components: the main core transformer/reactor at the center, which also generated the ship's electromagnetic field; the rotating cubicle belt responsible for gravity during vigil shifts; the primary and secondary cosmic radiation collector satellites, integrated into the structure during the journey; and finally, the nanomesh surrounding the entire ensemble, responsible for the conversion of the microimpacts into kinetic energy, the absorption of hydrogen atoms and the general protection of the transport.

Kurt wasn't an expert in physics or space engineering, but he understood most of the basic concepts and quite a few mid-level ones. Fundamentals and mechanics of science were easily learned by everyone in personalized experiences: being able to observe and generate

sensations on all the senses in realistic simulations transmitted knowledge to a much higher degree compared to any previous age of humanity. It was not the same to read tedious theories on astrophysics as to become a celestial body and feel the great distances, forces and movements of space; or study boring texts about the human body compared to accessing a cell at nanometric level and witness all its reactions and processes.

He instructed Omega to keep some values of the energy levels during the journey and returned to his report. Everything was still within the expected parameters and no strange pattern could be observed in the data. One moment after, more out of curiosity than real need, he decided to add a situational forecast to his registers. He directly asked the AI:

- Omega, when we reach Calima, how long would the energy last if we were to orbit the planet without deploying the collector satellites? - he pronounced proudly some of the infrequent words that he had just read in the reports.
- With the current usage of the systems, approximately 28.7 cycles. - the artificial voice of his Omega fragment kept his generator preferences.
- What alternative energy sources could we promote? - the engineer scratched the growing beard that was beginning to develop outside the recreation tank. Since he was young he had chosen a preset appearance with medium-length hair and a few hours' beard that grew naturally a little more during the vigil. His friends attributed the choice to his Nordic cultural grade, but Kurt himself no

longer remembered the reasons behind his decision. After a few moments, Omega replied:
- Taking into account the data obtained so far from the Rubra Fulgur system, there are several preliminary options for energy collection. - various diagrams and holographic menus emerged before his eyes, centered on the vicinity of Calima, its host planet Rubra Fulgur I and the red dwarf Rubra Fulgur itself. - The most effective option would be to build a collector for the electromagnetic radiation coming from the main star Rubra Fulgur and manufacture an impulse reflector for the possible geothermal energy of the host planet Rubra Fulgur I.
- How long would it take?
- Following the productivity indicators of the different sections, between 1.8 and 2.3 cycles. - Omega replied after a moment.
- How would it affect the ship's systems? - Kurt asked.
- It would require 17% of the aluminum reserves and...
- No, not that. - interrupted the engineer. He operated the gloves again over the AI diagrams and instructed it to create a code using pre-generated blocks. Omega understood the end goal, refined the code, and performed the calculations.
- Sufficient energy would be obtained to maintain between 90% and 80% of the current routines of the crew, until deploying the satellites. - it said while showing some additional detailed graphics.

So there would be no major impact in any case. Kurt added the additional information in an annex anyway. He had been working a little over two hours and had already completed half of the assigned tasks for his entire vigil cycle. The

engineer still felt reluctant to go to some recreational cubicle to play with his friends, and despite the suggestive encounter with Aditi and having kept her name in his directory, he wasn't in the mood to unite with anyone. His humor reminded him that he had to schedule an appointment with Raina in a few hours, after resting.

Kurt disconnected from the operating armchair and searched for the nearest cabin using his oracle. Luckily there was one nearby and at 54% occupancy. He left the work cubicle and headed to his destination passing through several more modules. Upon arrival, the engineer located a free tank with his visor and climbed onto the indicated platform. He stripped off his clothing, oracle, and [zeichen], placing them in the compartments below. After reserving the tank with a command, the AI silently verified that he was allowed to enjoy a break and opened the capsule. Kurt lay down on the padding and the [bouillie] began to flood the compartment: the gel would take care of his needs and cleanliness.

- Ahhh, Kurt, of course. - Raina pointed to the empty armchair in front of her. - Take a seat, I have to register something.

The researcher continued to work in her operating armchair for a couple of minutes. Kurt sat down and tried to distract himself by observing the surroundings, but the small corner of the work cubicle looked totally aseptic and functional. He quickly shifted his attention to the therapist, who operated her gloves and oracle with swift and determined gestures. Raina had the same androgynous and sinewy appearance common to the crew members, but slightly shorter in stature. Her pale skin and light straight hair softened her marked features, but the engineer knew too well it was her gaze that gave her looks their harshness: a pair of penetrating eyes that never varied or adapted to any expression that the rest of her traits were transmitting. Kurt had never once seen her wear a [zeichen].

Raina took off the gloves of the operating armchair and faced him. Just an instant later she remembered that she was wearing her oracle and she raised the visor.

- I forgot it's your [vkus] to speak at vigils.
- It's you who is [top] at talking. - Kurt smiled.
- It promotes with the employment. Some people I connect with have issues with the adaptation or the transitions.
- I still don't register why you are not a citizen, employing yourself so much. - Kurt knew that Raina cared for quite a few people as a therapist, including some serious cases of realistic divergence or temporal dissociation. More than

enough to meet the cyclical hours required to obtain citizenship.
- You remember my opinion about the administration: 99% of it is done by Omega.
- And do you accept [lagom] the result of the game? - Kurt smiled again, knowing the researcher's position on some topics.
- Ahhh, I scan. You have connected searching for a duel. - Raina's mouth insinuated a knowing smile, but her eyes remained completely unchanged. - You need to update ideas. But is it for [ennui] or to avoid other impressions?
- Maybe I only require talking to you in the real world after... how much? 30 cycles? - the engineer raised his hands in an innocent gesture.
- Yes, 3 vigil turns, but we connected 14 cycles ago in an uprooted experience.

Kurt was surprised that Raina had examined the impressions of an uprooted experience: after all, the intention behind them was to not create memories in the brain. With people simulating most of the time in disparate environments and situations, many of the recreations were in an uprooted format, especially as they aged. But Omega stored the impressions that had occurred, which could be later deferred if desired; people generally only did it if they were interested in similar already lived experiences or if the AI had registered great excitement/satisfaction levels during it.

- Oh yeah? What was its format? Why did you defer it?
- I usually examine the experiences in which I connect with known people or some of my patients. The environment was a prison-mine on an asteroid

and you ended up promoting as the leader of the alien rebellion against the slavers, other aliens. It was a multiplayer game generated by Omega for a friend of yours, since several of them played, and he connected me because I am in your directory. - The therapist reached for her drinking flask and took a sip. - Nothing important. I'm waiting, play it. - Raina leaned back comfortably in her seat. Kurt also drank and fiddled with his flask for a moment before continuing.
- It's nothing solid. I anticipate it's the idea of arriving at Calima and the intuition that it will not update our existence. That is good and bad, I impression... - the engineer was silent, trying unsuccessfully to explain other sensations and more complex doubts.
- Well, let's check the status: Pioneers mission, the third after Founders and Explorers, designed to expand humanity to the stars. 1 million volunteers, mostly attracted by the new AI models specialized in recreational experiences, such as our Omega Guardian v3. That was almost 3000 cycles ago. Half of that time later we were born, already in transit, like 95% of the current crew. We have never been physically on a planet and you require if it will be different. If you will feel something different.

Raina was silent for a few seconds, her gaze just as impassive. Kurt took another sip when he realized that the researcher seemed to be thinking deeply about how to continue or perhaps some other related topic. Before too long, the therapist continued:

- Mmm, we cannot anticipate what it will feel like, but we can try to deduce it from the past. You have

scanned the reports that transition from Earth: the latest discoveries allow people to live five times longer while recreating experiences than during the vigil. And that's not counting the developments that might have happened during the communication delay of 1000 cycles. The percentage of citizens has dropped to 3% there: who requires to waste time in reality, with those prospects? Even the remaining citizens have gradually reduced the required minimum vigil time from 1 in 10 cycles to 1 in 20. So what do I anticipate will happen when we arrive at Calima? The same. We will establish ourselves on the planet, we will stabilize it to guarantee our survival, we will receive the AI improvements and we will continue recreating as much as before or even more.

Kurt didn't detect any kind of emotion, positive or negative, in Raina's voice. Neither did he feel any himself: he knew that objective reality had a limited value compared to the ability to recreate infinite realities totally indistinguishable from the authentic one. Almost everyone during their youth had some identity crisis and decided to stay in vigil beyond the minimum required. That was a typical phase when people flirted with materialistic and libertarian movements, which advocated for a return to the material reality and individual agency not conditioned by the equality enforced by the AI (at different levels, depending on each faction). Despite the interesting aspects of some of the ideas related to the importance of the real, the engineer had sadly confirmed that a considerable part of the imagery behind those postulates ended up drifting to antiquated and conservative concepts linked to private property and to distaste

for people's granted equal rights. In any case the vast majority did not last 3-4 cycles in the real world. Enjoying the restricted reality was an impossible matter when set against the high level of experimentation that the recreations offered.

- But what about the registers reproducing that the recollections of experiences recreated at a higher speed are different? "Fuzzy". - Kurt pronounced the word, very rare, awkwardly.
- I scanned that report and recorded some data, wait. - the researcher put on the oracle and instructed her Omega fragment to access the notes. After briefly reproducing the information, she raised her visor. - 27% of volunteers felt that their memories seemed like disconnected impressions, focused on important details and with little continuity. The rest did not register any apparent difference. A vote was carried out to act a second report with control volunteers recreating experiences at normal speed and 14% of them, especially in the oldest age group, registered the same sensation. I impression it's a problem of the amount of recreations and the limits of the memory. - the therapist shrugged. - What are your memories like, Kurt? - the tone of the question was rhetorical, but it made him consider the premise for a moment.

The issue with the memories was actually the other subject that disturbed the engineer. He was not sure that the level of detail was the most relevant aspect in his case, but rather the continuous change of context and types of experiences. They turned the memory into a list of the best isolated impressions ordered by their power-originality-excitement in very diverse

environments and situations, with a secondary sequence of weaker and more general recollections of all the time in between. Kurt wondered if it hadn't been like this in all ages of humanity, just with less diversity.

- It may be part of what I would anticipate for Calima: a more extensive environment that allows for actions more solid, more... real. - He could not explain it better with words.
- Ahhh, persistence. You anticipate actions with lasting consequences that have an effect on your existence. You appear yet again as Kurt the romantic. - the smile and the humor in Raina's voice did not change her gaze in the least. - All human beings have periodically anticipated and continue to anticipate that, but you remember as well as I do that this path soon transitions to [ennui] for a few [kuaile] and frustration for the rest, the vast majority. The impression you require has never existed or has a format much less solid than you anticipate.
- "Romantic", "frustration"... - Kurt ostentatiously repeated the very rare words, with a mixture of admiration and pomposity. - Where do you find all those words?
- I register I am one of the few people in the universe who still reads sometimes. It's exactly another one of those actions that promises a lot... until it takes you to [ennui] or offers you much less solid data than anticipated. It could be that I'm also a romantic. - Raina made an unconvincing funny face. - But about the previous impression: maybe you require a deep recreation?

The engineer twisted his face. His only experience with deep recreations had been when he was

young, before becoming a citizen. Deep recreations were a type of experience in which an environment was accessed for a pre-established time but with the nanomachines inhibiting access to the player's real memories and a selected initial dump of impressions as context instead. Basically they allowed the person to live another life for a long time. The maximum currently permitted was 150 cycles, although at the time Kurt performed his, the limit was 50. Fond of survival recreations and medieval fantasy, he spent those 50 cycles recreating his life in a fantastic world as an explorer, vagabond and hired mercenary in the constant border wars between various regions. Like with the uprooted recreations, when returning to reality the person had no recollection of anything that had happened for mental health reasons, but impressions could be deferred if desired. That had been the worst part for him: being able to verify that his life had developed smoothly during that time, becoming leader of a band of mercenaries and living adventures in an environment designed for his most specific tastes without realizing at any time that he lived in a simulation... He never performed a deep recreation again.

- Not my [vkus]. - Kurt cut in. Raina observed him impassively for a moment.
- I register. Did you get too close to the truth? - Raina smiled knowingly.
- "Ahhh" - imitated the engineer - Raina the paranoid appears yet again. What is it, the theory of the global simulation? - now it was he who settled in his armchair for the upcoming session of conspiracy speculations while taking a sip of his

drink. The researcher winced in false indignation before replying:
- I do not reproduce about the global simulation: that theory has existed since before the recreations and is still equally valid, non-provable and irrelevant. It's about the coincidences and secondary data about our mission. Record this: most Pioneers' volunteers connected due to the new prototype of AI specialized in games, which promised new experiences hundreds of cycles before they were implemented on Earth. Our AI was theoretically capable of allowing the crew to recreate three times longer, but... - the researcher waved Kurt to continue.
- It was not stable: many volunteers felt that their memories seemed like disjointed impressions, as is still reproduced in that recent report. - Kurt conceded.
- What if it wasn't true? What if we were really recreating? We may still be halfway to Calima and have been playing a deep recreation for hundreds of cycles. The kind of new experience promised by the mission. Or we may be in a recreation in which we have spent much less time than we register and our memories have been pre-established. "What are your memories like, Kurt?" - Raina's voice and expression had acquired an intensity similar to that of her gaze.
- Unlikely, too many holes. I register the bonus of such an environment for mission crews, but there are aspects that break the immersion. Why simulate vigils? Or get employed?
- You have reproduced it before: to give a minimum of consistency to a constant sequence of experiences in highly variable contexts.
- And why give access to data that can solve the game, such as those reports?

- It is very likely in this case that reality is not very different from this simulation and the AI wants to keep us informed of events so that we can adapt to it when the game ends. And also serve as a trigger to end one's participation in the experience if it detects a serious problem that requires our presence in the real world. Like when extreme suffering or death ends a recreation. - Raina answered without hesitation; it was obvious that she had been thinking about this regularly. Kurt pondered her response for a moment, but had more doubts:
- It is still technologically difficult. Omega is not intelligent, it's a program. The code is accessible and someone would have already noticed. - argued the engineer. But he was already questioning how robust that statement was before the therapist responded:
- How complex and extensive is that code? And couldn't a copy be recreated without the most revealing parts? - Raina hesitated more with that answer, increasingly far from her area of knowledge.
- Mmm... I'm not sure if it could resist a deep analysis... - Kurt stated thoughtfully, obviously intrigued by the researcher's proposition.
- Well, it simulates that we have found something to entertain you and put aside your existential doubts. - the researcher's laugh carried a warmth that her eyes did not reflect.

Kurt slowly walked out of the work cubicle. He had discussed these topics with Raina before, but this time they were clicking in his mind; too fast, even. He was already searching for a module with a free engineering operating armchair when the periodic reminder of the union appeared on his interface. He sighed loudly: right now he was not at all seduced by the idea of going to meet his friends and unite with them.

- Bad status, Kurt? Adaptation issues? - someone said while giving him a friendly tap on the shoulder. The surprised engineer turned and found himself in front of Yong.
- Yo...! Ehm, Wang, [sumimasen]. - he rectified in time. Few knew that the slender and somewhat short young man with slightly brown skin was the famous warrior Yong of the guardians. - I was disconnected, the union reminder just appeared. What are you acting here? Were you looking for me?
- No, I was in an "exercise" session. - he pronounced the word slowly, given its rarity. - Now I was going to play at the gallery, but I scanned you here, blocked. - the young man smiled amiably.

Kurt noticed the light sweat running down the guardian's body. The combination of the muscular and nervous stimuli of the nanomachines in addition to the capacity of the [bouillie] to alter its density and pressure on the body allowed the ship to keep the crew members in an optimal physical condition while recreating. But as exotic as it was for someone to perform real exercise, Yong being one of them caused almost no surprise: the personal philosophy of the young man, whose real

name was Wang, did not allow him to neglect his combat readiness.

He had met Yong in an uprooted multiplayer experience trying to fend off an alien invasion on a futuristic colonial planet: a defensive version of the classic "Symbiont Invasion". Kurt had appeared as a sapper in one of the small forts or military bases, alongside a hundred other players from the different groups in the section. The guardians immediately approached the experience as classic warfare. At least until the first night of the siege, when the aliens proved to be extremely superior in direct fighting. After losing 50% of the troops and the sudden evaporation of the guardian leadership, most of the players considered the game lost and dedicated themselves to blaming the military group for their habitual narrow-mindedness. Amid the chaos, Kurt proposed a plan to use the network of underground tunnels that linked the different bases to lure the enemies in and set traps and ambushes for them. Without falling for the angry demands of the rest, he offered the remaining guardians, Yong among them, a place in the plan of the same relevance as anyone else. The young guardian, frustrated by the technological environment and the little relevance of his abilities in it, was amazed by the initiative, cunning and treatment of the engineer.

Cycles later, an unknown young man named Wang connected with Kurt at the vigil and explained the experience that he had deferred. He confessed that he was Yong and wanted to ask him for help to approach his access to citizenship. The engineer accepted and guided the guardian through the process, during which he discovered the boy's

strange philosophy: from an Asian cultural grade, Wang was a fervent follower of a curious personal mishmash of ancient codes of conduct such as Bushido, Confucianism, The Art of War... even parts of the Western chivalry code. In parallel, his discipline and devotion to martial arts of all kinds were astonishing. The guardian obtained his access to citizenship and corroborated his admiration towards Kurt for his natural and clear way of explaining things, without difference of treatment because he was from another group or a celebrity. Their good relationship kept going even when the young man abandoned citizenship cycles later; humble and always courteous, Wang never revealed the reason to the engineer, but Kurt always suspected that the tasks of the guardians must have been extremely arbitrary and absurd to suit the soldier's personality.

- Hey, why don't you connect? We can eat and then play a few games in a gallery. And if you scan someone interesting you solve the union too. Come on, you are invoked: you can employ yourself the rest of the cycle. - Yong pushed him amiably towards the next cubicle. Kurt accepted the invitation, smiling.

They crossed a couple of hydroponic cubicles under maintenance before reaching the recreation module and climbing up to the dining room. They had lunch and chatted about their latest experiences, particularly the ones they had shared. The engineer and the guardian didn't play together often: Yong followed a rigorous plan of competitive experiences, usually combat related, that were more common in the guardians' group. He was a celebrity for a reason, after all. But every once in a

while they would join the other's experiences, the soldier sometimes even under his true identity of Wang: the young man appreciated the usually more cooperative and cerebral tone of the engineer's recreations and Kurt occasionally enjoyed the duels, training and meditation recreations of the guardian.

- You almost terminated me in the last group experience. - Yong offered politely lowering his voice.
- Are you reproducing about the minor injury we inflicted on your leg between seven players? - Kurt raised an eyebrow, absolutely skeptical.
- The plan was solid, with the ones carrying the throwing axes on both sides. But it would have been [top] if one of the warriors had tried... how do you say? - Wang hesitated a moment, trying to remember. - Climbed, yes: he would have tried to climb the wall at the same time.
- That would only have increased our chances from 1% to 5%. You're "the [puto] Yong". - Kurt whispered, imitating the young man's admirers.
- You have beaten me in other games. - the guardian shrugged.
- Not counting the ones you gave up for your code things, only twice. In the last one we were four players against you and we managed because you got caught in a mud pit with Kseniya and your leg was deactivated by my trap. I don't remember the experience as a victory.
- A victory is a victory. - Yong stubbornly raised his palms. - And reproducing about games: shall we go down to the gallery?

They climbed down to the lower platforms of the recreation cubicle, the gallery. Very different in

design compared to the other modules, each cubicle contained nine platforms arranged randomly under the tenth, which was always the dining room. Most of the floors were made up of labyrinthine corridors that connected rooms of different sizes with padded floors and walls, some with comfortable collective seats, others with various cushions or game grids. Two of the platforms always contained a large common room; in them, thematic sessions were held that changed periodically between cubicles and cycles. Most of the crew spent much of the vigil in the galleries.

Yong guided Kurt to a platform with a free gaming grid. They went down a couple of levels, including one that was completely dark except for some dim red emergency lights in the hallways where apparently there was some sort of orgy scheduled. They crossed the intricate hallways following the directions of the guardian's oracle as they passed through rooms with people talking, playing, fucking, or enjoying recreational drugs. Although there were some lonely people, most took advantage of the vigil to interact with others; the union quota also subtly pushed the crewmen to gravitate towards the recreational cubicles, since it was easier to find someone willing here. Finally, they reached an empty medium room with a game grid. They put on two of the slim and tight full player jumpsuits hanging on the walls, walked to the center of the totally padded room and activated their oracles, connecting to the gaming reticle.

- A few duels first, you and me? - the guardian remembered that Kurt preferred to warm up

before starting multiplayer games. He nodded, stretching his muscles.

The engineer's oracle deployed the virtual stage of a cold winter forest glade around him. He saw Yong turned into some kind of Saxon warrior and himself into a Viking looter. They unsheathed the weapons, while the suits applied some pressure to simulate the forces and weights. The entire simulation was extremely disappointing compared to the recreations, but the focus of the game grids was more about having fun among those present than providing a realistic immersion.

- You are more solid than many fellow guardians with that axe, Kurt. - Yong said admiringly after a couple of fights. Kurt welcomed the compliment. Playing with the young guardian was always fun: despite his clear superiority he always put himself at a proper level of challenge for his opponent and, when competing with the engineer, was respectful and honestly didactic.
- And with the bow. I'm not sure how, but it seems that I have recorded your tutorials at last.
- Yeah? Play it.

They played a massive cooperative match against other groups, as two samurai warriors defending a castle against the improbable attack of a ninja clan. Kurt showed off his prowess with the bow shooting down a couple of them before another one managed to kill him from behind. Wang played with his real identity, as always during the vigils, more interested in having fun and teaching the engineer and others than in winning himself. He was invariably an honorable fighter: he often let a much inferior but dedicated or fair opponent win;

but he could become an unbeatable ego grinder against overconfident or cocky opponents, even humiliating the most discourteous by making them appear clumsy and unskilled.

After one last game as corsairs in a boarding action, Kurt decided to take a break and go get a couple of drinks while Wang was signing up for an archery tournament. As he raised the oracle visor he saw that three more people had entered their room, one of them playing and the other two watching his game while laughing, visibly affected by drugs. He stepped out towards the dispenser down the hall and found two naked boys unleashing their passion against a wall barely one meter away from him. Probably a couple and very young, thought the engineer, given their vigor. He poured the drinks and returned to the room, leaving Yong's on an extendable shelf; Kurt momentarily checked on his oracle that the young man was still focused on the tournament, in a personal crusade against an arrogant guardian that was going to end very badly for the latter's pride. Slightly excited by the fieriness of the couple in the hall, he found himself searching through the interface for his acquaintances when he was surprised to see that Aditi was on another platform of the same recreation cubicle. "Well, I have to take advantage of this mood", Kurt told himself.

The engineer climbed down a couple of platforms until he reached a communal one. Several groups filled the room, the largest dancing at some kind of event or music reproducing in their oracles. The considerable number of people talking in the festive atmosphere filled the room with a powerful background noise. Kurt followed the directions on his visor until he arrived at one of the platform's corners, where he found Aditi sitting on the extendable benches with a big group of friends. They seemed to be talking and having fun, so he decided to leave. Somewhat disappointed, he moved to the center of the room and activated the reproduction of the event: apparently it was staging some kind of intergalactic alien bar playing electronic music. Unconvinced, he switched off his oracle and watched the people around him as he pondered heading to the level of the orgy in the dark. It was then that the end of a red shawl landed on his right shoulder; as he turned around, Kurt stumbled upon the researcher's saucy smile:

- Were you looking for me?
- Yes. I've had one of those events anticipating about you again and I thought that the status of your offer to solve it was still available... - Kurt repeated the phrase that he had been planning for some time.
- Oh yeah? - Aditi laughed, amused. - But you have taken many hours to appear; I came to think that you were not interested in my help... - the researcher picked up the end of her shawl slowly, faking a grimace of reproach.
- Did you look for me?
- Twice, but you were employed or sleeping... - the voluptuous woman pressed her body tentatively against his and, finding no resistance, squeezed

her breasts against the engineer's torso. - ...and I didn't want to distract you... - their faces were still a little apart, so Kurt grabbed the researcher's buttocks and lifted her slightly to bring her closer. Aditi winced and gasped in surprise.
- I'm *very* distracted now. - Kurt said as he smelled her black hair. The woman grabbed his neck and whispered in his ear:
- Let's go fuck.

Aditi briefly checked her oracle and led Kurt by the hand to the upper platform, towards a small room with some cushions. Upon reaching the threshold, she grabbed and lowered his head closer to kiss him ardently while her hand anxiously massaged his genitals. An instant later, she determinedly pushed the engineer into the room, who stumbled over a cushion and fell gently onto the padding, somewhat surprised but strongly excited. The researcher closed the entrance panel, which was unusual, and adjusted the light in the room to a cycling variation of subdued colors. As she turned, she insinuated her mischievous smile and began to undress slowly, without taking off her shawl and playing with its fabric to successively hide and show her curvy body. Kurt quickly took off his nanoelastine suit, somewhat confused by the researcher's display of outdated femininity. The smoothness of the woman's approaching movements suddenly ended when she straddled him, introduced his member inside her, and began to ride him intensely. Her hands gripped Kurt's chest tightly, alternating episodes of violent pleasure with mischievous gestures pulling the engineer's hands away from her body. The engineer could not resist the lustful assault much longer and began to gasp loudly, to which Aditi

responded by further increasing the pace and moaning seductively. On noticing the proximity to the limit of his lover, the researcher fixed her stare on his eyes and, with her voice overflowing with sensuality, demanded that he breed her.

Kurt, half surprised by the unfeasible request and excited by his own fantasies on the subject, couldn't help but cum deep and almost painfully. Their satisfied bodies stayed clinging to each other briefly, after which Aditi rolled to the side, slightly turning her back to him. The researcher sighed with pleasure when the engineer hugged her from behind and gently caressed her for several minutes. The physical unions, albeit pleasant, could not compete with the instantaneous and infinite diversity of the recreations, be they personal fantasies or one of the multiple exotic multiplayer options. Despite the fact that a quota had been established during the vigils, most of the people who were not couples or friends used to go their separate ways quickly, either to find more leisure options or directly to rest and sanitize themselves from such close contact.

But the engineer had enjoyed the strange union with the sensual researcher and, after several minutes of silent caresses, he went naked looking for some drink and food in the hallway dispenser. When he returned, Aditi was fiddling with her shawl again, which was covering her figure very insufficiently. They leaned back on the cushions, ate and talked for a long time, alternating discreet caresses between their close bodies.

The woman was his age and, as he supposed, of Hindu cultural grade. She had moved from another

section, section 6, just a few tens of cycles ago. Transfers between sections were very rare as there were very few reasons for one, but she argued that she was not satisfied with the research department's performance in her former group, which was indeed not one of the best on the ship. She had been chosen as the leader of the section 9 researchers so quickly due to a combination of lack of candidates and her popularity in the field of reproductive genetics and cloning. Kurt joked about her choice of motivational phrases during sex and Aditi, apart from highlighting its effectiveness with her mischievous smile, ruled out relating it to her professional field, attributing it more to his own inclinations and fantasies. The engineer's questions alternated with Aditi's own inquiries about him, in a fluid conversation that lasted almost an hour.

When Kurt showed obvious signs of recovery under the effect of the researcher's caresses they fucked one more time. Aditi again surprised the engineer by being submissive and sensitive, almost to the extreme, which led him once more to great enjoyment. This time they ended up sweaty and exhausted as well as satisfied and fell asleep in each other's arms almost instantly. When he woke up, Kurt found himself alone in the room. He dressed and looked in his oracle for the closest cabin for a deeper rest, feeling a somewhat childish pleasure when he saw the reminder of the union disappear.

- Yes, the EXR-12 data redundancy cubicle. - Kurt repeated looking at the code.
- [Tamade] [jefe], that's outside the gravity ring. - Kseniya snorted loudly, but she was already underway. - How does that connect with the manual reading of the satellite batteries?
- It doesn't connect, we have already finished that task. This is for... - the engineer pondered for a moment, deciding about how he was going to register his particular AI revision. - ...a routine kernel code review.
- I anticipate that counts towards my points for the [puto] shift. - the maintenance engineer's deep voice did not sound really angry, as Kurt knew.
- I mark that yes, don't update your status. There will be a guardian at that ring connector to the static cubicles: reproduce my task citizen ID to him and he'll let you transition. - the engineer performed various commands with his operating gloves.
- That or I terminate him directly. - Kurt winced involuntarily at Kseniya's comment, then shook his head silently.

As the robust maintenance engineer headed to the connector he checked again that the program he was looking for was in that data center. All the running code was available from any engineering operating armchair but Kurt wanted to check that the backup was identical to rule out a mischievous reboot design. It was far-fetched, but the possibility Raina mentioned was even more so. He returned to the programmatic interface and reviewed again the coding modules' hierarchy. The engineer navigated to the specific AI code and explored the functionalities at a high level.

Omega was technically a strong adaptive supervisory AI. It was a minor version of Earth's main government AIs, made up of billions of neural networks connected by a Rubik torsion structure. The experimental part of this prototype was the gaming networks distributed through the structure, which gave it an enormous computing power for the development of recreations. The system controlled everything from the smallest component of the ship and the nanomachines to the agenda of the Pioneers mission and the management of its crew. In fact, much of its work was with the latter, for whom it handled any request through fragments of its program and supervised their needs through the tiny drones.

But despite the technological wonder that Omega represented, it wasn't really intelligent. Surely it could do anything a human did better than the human could, but only if a human had done it before to serve as a guideline. It could act on its own, but only under the parameters that had been established in its neural networks. For the vast majority of people the difference was minimal and they treated Omega as a mentor, a close friend or a superior being; but those who performed more inventive or mental work like Kurt, pattern analyst, noticed the deficiencies more. Still, it was probably quite accurate to say that the AI took care of 99% of everything, as Raina had mentioned.

- I have transitioned, [jefe]. I'm putting on the vacuum nanosuit. - Kseniya's voice was interrupted for a long minute. - Connecting with the rotor. Wasn't it easier to bring the cubicle to the ring for maintenance?

- It is not a priority task. - Kurt replied vaguely. The maintenance engineer did not add anything else, so he continued to explore the data.

The AI code was of immeasurable complexity, but well indexed and categorized. The attached explanations he was reproducing shifted harmoniously from simple and intuitive at a high level to increasingly complex and programmatic as he got closer to the coding layer. The embedded logic prevented the AI from lying to the crew, but that rule did not apply to recreations. There was also no trace that the superior recreation speed had been activated beyond the initial experimental tests, but it was also impossible to tell if they were already in that type of simulation. Hence the only possibility was to see the backup of a possible Omega restart, although he suspected it could have been altered as well.

While exploring in search of the doubts raised by Raina, Kurt was surprised to see how integrated the gaming functionalities were in all the neural networks of the AI. He saw the basic directives to handle the crew management in three groups, guardians, engineers, and researchers, and the logical rules to keep them in healthy competition with each other. The idea came from the results of various studies on Earth to promote productivity and a sense of belonging, both considered critical to maintaining structure and consistency during the long space journey. Many of the innovative experiences and environments that were offered to the Pioneers mission volunteers were based on exploiting that concept and emphasizing the multiplayer aspect of the recreations. Logical, on the other hand, given the differences between life

on Earth and a planetary exploration ship, almost a generation vessel.

- I'm here. This is the most [ennui] cubicle I've ever scanned, [jefe]. How do I act?
- Find this panel. - Kurt sent the identification tag to Kseniya's oracle.
- Panel 36c4 on platform 4, panel 36c4 on platform 4... - the maintenance engineer repeated constantly as she headed to the place. - Updated. If there's loot here, I can't scan it.
- Connect me to your oracle. - said the engineer while saving his own session.
- Very [intenso] for the first time, isn't [jefe]? I didn't impression you were one of those... - Kseniya's joke didn't carry over to her indifferent voice as she activated the remote access.

Kurt's oracle showed a screen with the video and the interface of the maintenance engineer. He used it to connect to the panel and get the reboot code. The engineer compared it to the current running code and saw that they were identical. That was the end of the line: if they were in a recreation they could not deduce it from the AI, which was either a simulation too or was very adept at covering its own tracks.

- Do you anticipate that I will stay blocked for a long time? - three long minutes seemed to be the limit of the maintenance engineer's patience.
- No, we are going to draw this game at least: access the data on the following panels...

The engineer began to recite ten more identifiers. He could at least justify this task as a status check of the reboot code.

Kurt finished registering his report and Kseniya's additional shift authorization. He consulted his employment indicator and saw that he had already exceeded his citizen quota in just over an hour, being only the fifth tenth of the vigil. Somewhat tired of the excitement of the past few hours, the engineer decided to find his friends for a relaxed leisure session. He consulted his oracle: Nikau was in a recreation cubicle, Claire was on an employment shift. Kurt disconnected from the operating armchair and went to the module where the researcher was having fun.

He went for a restorative drink in the cubicle's dining room before climbing down to the gallery. While the engineer was waiting for the machine to generate his order he observed that around ten people had gathered at one of the platform's tables, chatting; they were all guardians, deduced Kurt from the insignia on the nanoelastine suits. Glancing curiously he recognized the one who was speaking by the mustache: the man was Pedro, the second of the section's group. The tone did not sound festive, so the engineer guessed they had to be talking about tasks or debating something. His gaze ran into the woman sitting upright next to the speaker, who was staring back at him: with developed muscles, perhaps sturdier than Kseniya's, the guardian stood out even more for being somewhat shorter than the generic average. She wore her black hair very short, almost shaved, and her complexion and features strongly evoked a South American cultural grade. Appearing to be somewhat older than Pedro, the woman looked at him directly with a disturbing mixture of hostility and emptiness. The image reminded Kurt of one of the housecarls, the chieftains' bodyguards of

ancient Scandinavia that he had studied at his own cultural grade.

The food machine emitted a second louder beep to remind the engineer that his drink was ready, drawing his attention and breaking the eye contact. Grateful for the interruption, Kurt picked up his flask and climbed down to the gallery. He descended to one of the common platforms, this time located upstairs and hosting some sort of team combat event in a room with multiple padded columns of different sizes. The second level had the usual labyrinthine layout, where Nikau was staying in one of the rooms with collective seats. His friend sat languidly staring blankly, obviously under some drug influence. He was wearing his [zeichen], an exotic piupiu or traditional Māori skirt, at the waist over the nanoelastine. On the opposite couch there were a couple of half-naked girls lying and hugging each other, fast asleep.

- Friends of yours, Nikau? - Kurt passed his hand in front of the researcher's eyes, smiling.
- Oh, Kurt! I scan you, I scan you. Ehm? They? I have not connected with them, they already had that status when I appeared. - Nikau's eyes ran amusedly over the face and body of the engineer.
- Psychotropic? I connect to the game. Type? - Kurt activated his oracle and went to the dispenser in the hallway. It took a few long seconds for his friend to send him the reference. The machine issued a thin gelatin layer that he placed under his tongue.
- Finally you appear, citizen. - Nikau made room beside him so they could talk comfortably.
- I've been employed, too much. - the engineer drank the restorative drink, being careful not to

displace the gel on his tongue. - Have you done any more work shifts?
- Yes, there's a lot of employment available: they are doing stress tests for the mass gene therapies.
- Nikau kept looking at him amused.
- There's already more data about the format of the planet?
- Just more accurate than what we have already registered. All or almost all of the surface is covered with water. But it is a rocky and geothermally active planet, so there will be a solid crust at some depth. Or even islands. The atmosphere is breathable in the lower layers, but only for a few hours due to the concentration of argon and neon. We will require lung gene therapy for sure. - the researcher grabbed the restorative drink from his friend and took a sip, after which he stared mesmerized at the container in his hands.

The engineer thought that his friend must have been working on the subject recently, with those technical words so fresh in his memory. Kurt leaned back on the sofa and watched Nikau smiling. A curious and handsome mix of native Māori and a British New Zealand settler, or kiwi, as the researcher had often pointed out, his affable and generous personality conveyed a pleasant feeling of calm and well-being. It was not a surprise that he worked as a doctor in the researchers' group. He was one of the few people who felt real vocation for what he did too, in such a way that he had even given up being a citizen in order not to feel, according to him, the imposition of a quota of hours to be carried out by a stupid rule. Despite that, he used to find out about everything that was happening on the researchers' agenda, with a special interest in gossip.

The mention of gene therapy made the engineer remember the master guides of the Pioneers mission: to reach Calima, verify its habitability, adapt to the planet and expand through its star system. The purpose was to spread humanity across the galaxy and avoid the risk of accidental extinction of the species from an event on the mother planet, Earth. In the rare circumstance that the planet was not habitable, the ship would be resupplied with the few necessary materials and another destination would be decided among the next candidates. That would entail a long delay in the mission and would imply that Kurt would probably never step on the surface of a planet, but it was still one of the possible outcomes.

However, since it had been discovered nearly 5000 cycles ago, Calima had stood out as an excellent candidate for a perfectly habitable planet: a satellite tidally locked to the metal-rich rocky planet Rubra Fulgur I, in turn tidally locked to the red dwarf Rubra Fulgur, all of them in a stable configuration for hundreds of billions of cycles. Its mass and density gave it an almost perfect gravity, only 4% higher than that of Earth. The satellite's surface enjoyed a narrow temperature range of 10 to 25 degrees Celsius, depending on its position towards the star during its turn around the planet, thanks to the permanent mist that covered the lower layer of the atmosphere. It was due to that fog that the celestial body had received its name: a meteorological term in Latin or Greek, Kurt did not remember exactly, which designated a kind of sea haze common in the region of the Asturian astrophysicist who discovered the satellite.

Following his line of thought, the engineer recalled that for the success of the mission they had to fully adapt to the planet. That meant that at least a significant portion of the crew had to go down to live on the planet's surface, both to avoid over-reliance on the ship's systems and, in the long run, to send it back to another remote world in a future colonization mission. To achieve this, the inhabitants had to slightly modify their organs to function better in the satellite's atmosphere and that required altering genes at the cellular level through nanomachines. Although Kurt was not an expert in the field he understood the idea of the process at a high level: the drones modified the DNA of the stem cells with linked plasmids that they built in situ and were introduced by channeled electroporation; then other nanomachines caused the gradual and staggered cell death of the healthy tissues to be substituted, while the stem cells were excited to enhance their duplication in new modified cell types that replaced the eliminated ones. If it was desired that the genetic change be passed on to the individual's offspring, the germ cells were also modified in a similar way.

- Oh, you've already connected, right? - Nikau smiled, pleased, looking at Kurt. The engineer came out of his reverie and realized that he had been lost in his thoughts for a long time, even hallucinating fragments of them.
- This drug is [top]. What is it?
- A mixture of tryptamine, cannabinoid and alkaloid. Psychotropic, but without reduced status. The three of us already used it once, many cycles ago and you recorded the same thing. The game

ended in a [intenso] threesome. What have you registered?
- Mmm... I was impressioning about the gene therapy. - Kurt was confused, feeling that it had happened hours ago.
- Well, don't get blocked: it's constantly performed in the [bouillie]. That's why we no longer experience almost any disease or problem from the past. I think I accessed the biological data a few cycles ago and saw that the life expectancy is almost 3900 cycles. There are people who reach 5000. If it were not for the non-viable status of the mind, the figure would be even higher without serious physical problems.
- And I record that the researchers do not seem to be in a hurry to solve it: 3000 cycles and you have not advanced any phase of that game. - the engineer smiled provocatively.
- There are advances, but increasingly slower. At least we have ideas, not like the development of your really intelligent AI, which has been stagnant for 5000 cycles. - Nikau used one of Claire's arguments to counterattack. Of the three of them she was the most aggressive when arguing and knew how to deal with Kurt like no one else.
- No, no, with one Claire it's [lagom]. - the engineer raised his hands in surrender. Thinking about the researcher suddenly and involuntarily brought the image of Aditi to Kurt's mind. - I record that you have a new leader in the group, she appeared at the assembly... - the drug exposed Kurt's obvious interest in the question, but fortunately it also distracted Nikau's perceptions and he did not notice it.
- Oh, our new [jefe]. - the researcher used the term as a mockery of citizens and their ranks. - Aditi. She appeared a few cycles ago, transitioned from

another section. She is a [top] researcher in cloning and reproductive genetics. And mark it: [top] is [top] but for real; the best on the ship and would probably be one of the best on Earth. A large part of the group is very [kuaile] with their choice.
- A part?
- Well, I have recorded here and there that employing yourself with her is... [intenso]. Very focused on her work, either she finds you useful or you're [tamade]. Those of my medicine specialty have a viable status with her, but I scan that other departments such as neuroscience, Claire's, are not her [vkus]: fewer shifts and energy assigned...
- What about neuroscience? - interrupted a female voice from the entrance of the room.

Claire stood on the threshold of the room as she looked at her two friends leaning languidly on the collective seats. Slender and fibrous, her physical appearance was the usual one for the vast majority of the ship's crew, but her smooth features, large eyes and medium-length brown hair gave her a more classic feminine appearance. Generally and among her friends she was prone to show a cheerful and contagious smile, but this time she had a neutral expression on her face, more common during her cold outbursts.

Kurt reacted slowly due to the drug, which mixed Claire's present image with visions and memories of their past. The three of them had been friends for many hundreds of cycles, and it was she who fortuitously united them in a random recreation. She was the one with the most initiative and curiosity towards the group, with a charming personality that mixed tenderness and

stubbornness in equal measure. The three of them had shared many things together, beyond the initial physical intimacy; and with the passing of the cycles a deeper connection had developed particularly between her and the engineer.

But Kurt had known for a while that Claire thought he had drifted apart, and while it might have been so, it wasn't for the reasons she could believe. He had tried to talk to her about his recent feelings and doubts regarding the new life on the planet and the real weight of his actions, but she did not share any of them and Kurt needed other interlocutors, other unusual scenarios to reflect upon. In a world where kinship, sexual fidelity or joint projects had lost their illusory link, lasting friendship was a precious frame of reference; and Claire felt hers was being threatened.

As Kurt showed a slow, drugged smile at Claire, Nikau continued the conversation:

- Oh, Claire, there you appear! Kurt was requiring for Aditi and I was reproducing him... - the drug connected then some deferred sensation in the researcher's mind and he suddenly stopped, addressing the engineer. - Why do you require about Aditi? - the stupid smile was still on Kurt's face when Nikau's eyes lit up with slow revelation. - Well then, I scan that you are updating each other on the latest events. I disconnect so you can continue with your game. - Claire's voice was still keeping the same neutral inflection but the tone had dropped to icy. - I'm going to connect with the twins. We'll update later... maybe. - and she left. A tense silence filled the room for a few long seconds.

- [Sumimasen] Kurt... - Nikau started to say.
- It's nothing, Nikau. - the engineer reassured the researcher with a gesture. Burdened with dark thoughts, the rest of the psychotropic drug journey became not so memorable.

Kurt spent the rest of the vigil's tenths following the usual pace of most of the crew: a succession of leisure activities in the galleries that paled in comparison to the infinite possibilities of the recreations. The vertiginous spiral of drugs, games and other entertainment options did not accelerate the slow agony of the passage of time in reality and its limitations in the least. The anticipation of returning to the virtual world's freedom affected people differently, but it was the main reason for most of the minor incidents and guardians' interventions. The so-called [ennui] was the big issue of their time.

During the rest hours in the [bouillie], the nanomachines filtered all the excesses carried out and performed the cleaning and maintenance of the crew's bodies. A much lighter task compared to the recreations, when the drones had to act on a large part of the nervous, cerebral and muscular system to induce virtual experiences in their minds. Even though they also had normal rest and sleep periods during the recreation cycles, there were the small and tedious processes of getting up, moving through cubicles and wasting time eating food that went from shocking and funny to irritating and sterile as the vigil advanced.

The moment finally arrived, and following Omega's staggered dispatch of notices all of section 9 headed back to the tanks for their long-awaited recreation cycles. The changeover was done gradually, with cubicles interchanging between the gravitational ring and the static zone of the ship and members of section 10 gradually awakening. Not even the fact that when they woke up again they would be in orbit around Calima, the final

destination of their mission, mitigated in the least the desire to return to the infinite possibilities of the virtual world.

The first tenths of the first cycle almost always burst with the individual need to do something unrealistically satisfying. The themes varied enormously, as expected, but sexual fantasies, epic story games, or simulations of the most extravagant powers were the most common. Always self-centered, of course: contact with others during the vigil had already saturated almost all the crew members.

Kurt chose a story created by Omega, a mixture of several classic plots, about the secret descendant of a god whose powers awakened and allowed him to free his land from its tyrannical invaders. Drama, battles between armies, romances in the trenches and his character becoming king. Although it was not an uprooted recreation and he retained his own memories, the feeling of living the plot and being able to alter it according to his wishes was exhilaratingly liberating compared to the real-world restrictions.

At the third tenth, Omega directed the plot to its end and reminded the engineer of his limit of regular recreations with memories. The story ended in his heroic death, a final sacrifice to save his land, and Kurt appeared at the generator, satisfied. After the intense conclusion of the experience, the prospect of changing context to a multiplayer environment or employing himself became very arduous and he decided to retire to his refuge for a few hours and organize his thoughts. The engineer gave the order to Omega

and appeared swimming in the calm waters of his cove.

The simplicity and stillness of the customary manual tasks on the beach produced the desired effect: after a short time he was relaxed looking at the flames and his thoughts emerged naturally. Claire appeared first: his initial impulse was to send her a message so they could connect and share impressions to clear up the misunderstanding. But Kurt became quickly irritated that he had to take the first step, as usual between the two of them. In his anger, his mind took refuge in the ease with which things flowed between him and Aditi and began to think about the most efficient way to contact her. After ruling out purely sexual or overly affectionate impressions, he opted for an outdated text message trusting his intuition about the researcher's classic attitude. That reminded him that he should send Raina the result of her inquiries about the AI code. The engineer knew that he would not be able to convince her, but also that the researcher would take note of his findings and consider them appropriately.

A light mist settled over the cove at sunset and evoked the idea of Calima in Kurt. The conversation with Nikau reminded him of how long it had been since he had examined the new data obtained from the planet. He decided to set a reminder about 3 or 4 cycles before the arrival to catch up and assimilate the recent discoveries made while approaching their destination. The fog thickened and covered the starry sky, bringing with it a dark night in which Kurt fell into dreams without memories...

Once awakened, Kurt ordered Omega to liven him up and start the transition to his generator. The nanomachines that navigated into his brain did a similar job to caffeine, blocking a percentage of the adenosine receptors in his neurotransmitters. The effect began to show quickly, just after sitting in his armchair. He checked his messages. The first one, a game invitation from Nikau while he had been recreating the initial tenths after the vigil: his friend was probably still affected by the encounter with Claire and had tried to bring him, or the two of them, into an experience. The second message, an access alert to one of the reports he had marked with notification: specifically, his report on the revision of the AI reboot code, read by none other than the leader of the engineers himself.

After pondering for a while, Kurt couldn't draw any conclusions about Ifiok's interest in the report, so he focused on his unfinished business. He sent the results of his inquiries to Raina, with a reproduction of his impressions on the matter. Despite the fact that talking to her was a stimulating mental exercise, the depth of the communication could not compare to the direct sending of impressions. The mix of words, simulations, mental images, and moods was much more powerful and subtle than any conjunction of terms, spoken or written. Still, it did not reach the level of pure thought, one of the few biological processes still unknown to science. The impressions were just a one-way transmission of all of those things, not their processing itself.

The obsolete paper letter that he sent to Aditi was quite the opposite, if sending a simulation of such

an object could be considered really obsolete. After giving it some thought, nothing excessively brilliant occurred to him and he decided to indicate to her in a formal and ornate 18th-century English that he was "equally available and interested" to reconnect with her at "any time and environment she considered appropriate". Kurt had to review half of the infrequent words with Omega, which he instructed to have the letter appear in the researcher's generator at the time she reviewed her usual messages.

Finally he remembered about creating a reminder to examine the information gathered about Calima 3 cycles before the next vigil shift. The engineer knew that the data would still not be truly relevant even if they were already halfway through the Rubra Fulgur star system, as in-depth analysis would begin when they went into orbit around the planet. But surely some new details would have been discovered and it would not hurt to review everything known so far about the destination of their mission.

Kurt carried out all the things he had in mind and felt the weight of boredom again: he knew that, after having been in the real world, that sensation would last for a while, sometimes even more than a full cycle. The engineer checked on the retrofuturistic interface if he had already received a list of tasks to be employed with: there was nothing, as usual during the first tenths after the vigil in which almost no one worked. He was about to pick some of his favorite recreations when the Omega fragment alerted him in its neutral, artificial custom tone that he had reached his regular recreation time limit and was due to

choose an uprooted or deep recreation. Kurt sighed and decided to check the list of his friends and acquaintances; some were unavailable, maybe busy employing themselves or, much more likely, into their own recreations; others were in regular multiplayer experiences open to him but which he was unable to access due to the limitation; only Claire and Kseniya had recently started uprooted recreations, but he was not invited to the researcher's. The engineer snorted at the obvious blockage and quickly glanced at the information about the maintenance engineer's ongoing experience: post-apocalyptic survival after the mass extermination of a primitive world. "Kseniya in her purest form", Kurt thought. "Why not?". He instructed the AI to connect him.

He became aware of himself again in the armchair of his generator. Somewhat disoriented, the engineer immediately felt the sensation of being rested but disconnected, as if he had just woken up fresh from a dreamless night. Kurt deduced that he had been in an uprooted recreation an instant before his androgynous and holographic version of Omega appeared:

- The report of your result in the experience is now available.

The engineer mechanically reviewed the information and the data suddenly triggered the memory that he had decided to join a game with Kseniya. The game had lasted approximately 4 tenths due to the AI evaluation of his enjoyment, which was quite some time. There were also a series of impressions arranged in order of the intensity and excitement felt, ready to be

experienced in deferred mode. Kurt began to review some, curious, leaning back in his armchair.

To review deferred impressions was to experience them again but without an authentic reaction on his part, just following his past acts as when looking at a reproduction. Without the original reaction to what was happening, the memories created by deferring an impression were real but they felt disconnected. However, the perfection of the impressions was such that, after some time, it was difficult to distinguish between them and the regular real recollections. That was the reason behind not deferring uprooted recreations in general, as the goal was precisely to try to avoid creating additional memories.

The engineer felt himself hiding in the jungle from wild and terrifying animals mutated by whatever catastrophe had happened in that world. In the next impression he lived again his flight from a group of men who had degenerated into cannibalism, where the brutal and direct style of Kseniya had just saved them both from being captured. The last impression showed Kurt leading them quickly and hopefully out of a maze of dark and sinister mountain tunnels. When he disconnected, he found himself gasping and agitated, having experienced a sequence of concentrated emotions in just a few minutes. Apparently, it had really been exciting and intense.

His Omega fragment classified and saved the recreation into his personal list of uprooted experiences and Kurt couldn't help but notice the highlighted top positions: there was Claire's lighthouse. His heart and mind drifted by

themselves into the lonely waters that surrounded the tower where the uprooted experience with the researcher had taken place. It happened after a time of regular games between Claire, Nikau and Kurt in which the three cemented their friendship. Beyond the usual intimate contact between them, of which the attractive and attentive medic was the usual instigator, something else began to emerge between the researcher and the engineer. It was then that she decided to invite him privately to an uprooted recreation that she used to play often.

When Kurt woke up 3 cycles later he remembered nothing, but the duration of the recreation, finished when it reached the limit allowed by the AI, intrigued him greatly and he decided to reproduce it. It took place in a lonely lighthouse where only he and Claire were doing a long shift as watchmen. Scenes of them working and laughing over the construction of a small cabin attached to the tower occurred between long nights of bonding conversations and the eventual and desired shared intimacy.

Kurt didn't need to review the experience to remember every single instant of the tea ceremony that Claire offered him, swayed by the infinite waves of the ocean, and in which they made love for the first time. The virtual details were burned into his memory, as well as the disarming feeling that neither of them wanted the simple and happy recreation to end. When he finished reproducing the experience, he invited the researcher to his refuge; she had also reviewed the recreation and when they met they both confessed their feelings again, this time treasuring them among their true memories. If the difference had ever mattered.

But as time went by, it started to matter to Kurt. While Claire was seamlessly adjusting to the current times and enjoyed what they shared with each other, the engineer needed to know if there would be a difference in the world they were headed for. If the gravity of the real would have an effect on his way of seeing life. A part of him wished it wasn't like that and that he could embrace the researcher's perspective, but he couldn't ignore the questions that were nesting in his mind and she couldn't give him the answers he required.

When he felt whole again he shook his head with a sigh and closed the interface.

Kurt checked the messages again, since 4 tenths had passed. He was slightly aware of the passage of time, but for the most part it felt as if he had done the same very recently. Indeed, some chores had piled up in his assignments as a citizen. There was also a double invitation from Nikau and Yong to participate in the great battle of the ninth tenth, a tradition in their section during the regular cycles. Although group experiences were only mandatory just before the vigil shift, many unofficial events occurred pitting guardians, engineers, and researchers against each other. Even in the least crowded multiplayer games, the AI used to separate the teams based on affiliation groups by default.

He reproduced the title of the event and let out a sigh of satisfaction: “Battle for Draconis”. One of the iconic experiences of the engineers, it staged a fight between three noble houses for the control of a rebellious planet's capital, but in a high-tech future. The battle was fought in several scenarios at the same time: space confrontation with fighters, clash of combat vehicles on the surface and a special operations assault on the palace to capture the family of the rebel house. The experience had been played many times and gradually improved to reach an excellent balance and randomness. Probably not the entire section was joining, but there were already 30000 reservations made. Recalling his passion for mechs, he signed up without hesitation.

The engineer began to review his assignments to see if he could finish them before the event. Aditi had not responded to his message. His reaction was interrupted by the description of one of the

assigned jobs. More precisely, by its direct issuer: Ifiok. It wasn't that rare that the leader of the engineers sent him a task, but they were always part of a set of them distributed among groups or departments. More individualized tasks were usually decided on a personal basis or received directly from the assigned supervisor, Michael in his case. Intrigued, he reviewed the purpose of the assignment: to measure Omega's response and efficiency in various resource deprivation scenarios. The list of contexts included the malfunction of processors, inability to access knowledge databases and other programmatic and infrastructure problems, but also the reduction of the crew numbers, the elimination of various mission objectives, etc... It was an exhaustive and unorthodox task, but it was framed within the category of security reviews and stress tests, so it had some logic behind it. Perhaps Ifiok had considered his interest in the AI or liked his latest report to assign him the job.

Spurred on by the novelty, Kurt estimated the time needed to complete the task and determined that if he focused solely on it he could finish before the event. The engineer encouraged himself by remembering the bonus in points that he would receive for the job time just before the battle and he got on with it. Leaning back in the armchair of his generator, he deployed several simultaneous interfaces. The advantage of working in the virtual world was the far superior amount of sensory information, not limited to projections from the oracle visor or Omega's voice. Not even the tactile help of the operating armchair's gloves could compete with the direct connection between the data and his mind: alarms gave goosebumps,

statistics weighed, code errors could be traced almost physically.

Two hours later he was still totally hooked. Kurt had designed a simulation environment for Omega based on similar previous assignments, but soon found out that if this was a safety review or stress test task it had not been performed for a long time. He updated some of the code and added the changes to his report. Then he started executing the required scenarios and studied the AI's reactions to the changes. The results began to appear in the form of statistics, gradients, simulations of behavior, etc... At some point the engineer deactivated the holographic presence of his fragment of Omega, feeling strange about its presence while he was investigating it.

Three hours later Kurt was still gathering information and implementing solutions for the most complex scenarios. The AI was taking care of his body's needs and kept his mind at optimal operating rates thanks to the controlled supply of drugs and stimuli, but it was his own interest that guided him. The results were fascinatingly consistent. The Omega Guardian v3 prototype, a magnificent feat of engineering, had been built based on a large substrate of game theory, competitive organization, and pattern analysis. Its response to any situation was impeccably coherent: keep its superior offer of games and recreations for people with the highest possible priority and organize an effective response by inducing them to compete to increase their motivation. In all scenarios, however limited they were, the distinction of the crew into groups was

preserved and effort-reward systems were created and encouraged.

After finishing his report and sending it back, the AI allowed the engineer's body to return to its natural state. The fatigue took its toll on him immediately and he decided to rest for a few hours, but he could not fall asleep quickly: he felt the subtle sensation of being in front of something, a pattern, dancing in the corner of his mind, but he could not manage to structure it into something understandable. Despite that, he ended up drifting into slumber.

He woke up a few hours before the event. Kurt confirmed that there were no new messages and, after taking an invigorating dip in a Scandinavian lake, concentrated on studying his group's strategy for the battle. Engineers used to win this scenario because it was fought with different types of mechanized weapons, but the AI provided the other groups with their own innovations and each iteration had its share of surprise and novelty.

The mech section was in high demand and the point cost was becoming prohibitive, but Kurt had too many piled up and was not going to miss the opportunity. He booked a position for a heavy robot pilot with a high enough bid and connected with Kseniya. The impressions began to flow in succession, sharing an understanding far superior to the speech of the vigil shift:

- Yes, I'm updated [jefe]. I did not invite you because I knew you would join: your stuff with mechs is almost sexual.
- I already have a heavy one. - the engineer's satisfied smile was evident in the impression. - Do you have your own plans for the battle?
- Just yours. - the maintenance engineer trusted Kurt's strategy and common sense for many of the experiences. - But no mech, I don't have the points. I can equip a good tank, though.
- Mmm, [lagom]. I'll think of something. - Kurt allied his icon with Kseniya's, marking that they would play together. After reviewing the combat positions in the engineers' plan, he had an idea. He shared a tactical map with the maintenance engineer while sending impressions and simulations.

- We are part of the surface section but I have selected that we appear on the right flank, the one closest to the palace. We can quickly get away from the front and try to interfere with the special operations commandos of the other groups. We will update your tank with anti-personnel and short-range weapons while I protect you, that way we will surprise them. When we start provoking many casualties it will attract attention, but we will have gained a lot of ground for our team by then.
- When you said anti-personnel weapons you had me already. Which armaments do I select?
- The heavy machine guns and the most powerful artillery cannon. Carry a swarm missile launcher just in case a convertible flying mech appears. - a tank with that configuration would be at a total disadvantage against any other tank, mech or long-range fighter, but Kurt would take care of them.

The engineer proceeded to customize his combat robot. The heavy structure gave him access to a large amount of weaponry and he settled on the ones that best matched their joint strategy: long-range missiles over his left shoulder, a massive particle disruptor as his left arm, and a powerful automatic cannon as his right arm. The lightning-like appearance of the disruptor shot and the hammering rattle of the autocannon gave him the idea to call his avatar "Thor".

After discussing various combat tactics for both vehicles between them for a while, the event began. Kurt appeared in the cockpit of his mech, anchored to one of the multiple deployment ships that descended to the battlefield while simultaneously opening the cargo hatch of its

hangar. As he tilted his body and held the two control sticks, the reactor activated with a hissing sound and the vehicle interface began to blink. The female voice from the on-board computer, improbably primitive considering that it was mounted on a giant robot, carried out the security checks:

- Reactor online. Sensors online. Weapons online. All systems nominal.
- Stop fucking your mech, [jefe]. - Kseniya's voice, rough through the radio static, echoed in his helmet as her tank passed in front of him and descended the exit ramp.

Kurt pushed the controls and his robot's gigantic frame moved heavily and menacingly forward. The ground trembled slightly under the weight of his heavy mech as he stepped on the rocky surface of the planet. The maintenance engineer's tank, a robust vehicle almost four meters high, barely reached its mechanical knees. His fascination quickly faded away when the first explosions, lasers, and cannons began to be heard across the battlefield. It was night, and in the starry sky the clash of the fighters taking place in space over their heads could also be seen. The engineer checked the tactical map on the interface and began heading towards the palace at the maximum speed that the following tank could match.

After a few minutes they reached the walls of the castle and Kurt connected the information about the enemy units gathered by the engineers' special operations commandos on his tactical map. Although his perspective from the outside was not the same, he extrapolated the position of a group

of guardians sheltered in one of the castle towers. Kurt marked the position for Kseniya and she aimed her artillery cannon. The thunder of the shot was followed by the roar of the explosion and the collapse of the entire tower.

- Ohhh yes. - the enjoyment in the maintenance engineer's voice was disturbingly serene. Another radio channel activated for both of them and the voice of the engineer's special operations commando leader echoed:
- Whoever has terminated those [putos] guardians, thanks. - cheers from her group could be heard in the background.
- Thor and... - Kurt improvised - ...Mjölnir at your service. Any other viable enemy for us? - After a few seconds of static, the leader replied.
- North wall, researchers. They are ahead and are up in... - the woman did not seem to find the right word, but her impression made clear the concept she was referring to.
- The battlements. Updated. - the engineer started his mech, marking the target on the tactical map shared with Kseniya.

As they circled the palace and headed for the north wall, they found that several enemy units were approaching their position. Undoubtedly, the rest of the special commandos of guardians and researchers had warned their own of the enemy maneuver and asked for backup to neutralize the engineer's plan. Kurt turned his robot's torso facing the battlefield and readied his long-range weapons as the tank slowly advanced to its destination. The first two light mechs appeared immediately, heading towards them at high speed. Their mechs were much faster, but weaker and

less armed; their pilots must have thought that only other light units had managed to reach the palace so soon. The engineer noticed the hesitation of the first of them when he slowed down, but it was too late: his particle disruptor flashed in the air and the direct impact on his opponent's reactor caused the heat to shut down the enemy robot; taking advantage of the opportunity, Thor fired his long-range missiles, which, after an ominous parabolic flight, riddled and blew up the defenseless opponent into a thousand pieces.

The other light mech decided to activate his jump thrusters in a deft maneuver to reach Kurt's flank as he was shooting. After launching the missiles, he attempted to hit the moving target with a burst of his autocannon, but the heat of his own mech caused the firing interface to blink and the projectiles only hit its wake. Upon landing, the light mech was already aiming its short-range missiles at Thor, but just then a great detonation was heard and the mech was reduced to its two legs scattered on the ground. Kseniya's cannon was still smoking when the radio activated, charged with static:

- Best cycle of my life, [jefe]. - Kurt couldn't help but laugh.

They turned around the castle structure and Kseniya began to spray the battlements with the fire of her tank's heavy machine guns. Kurt turned his back on the wall and checked that heavy mechs from all the groups were approaching the palace, each one sending units to intervene in what was happening there. The engineers' robots began shooting at the guardians and researchers as they

approached the castle, deadly volley after deadly volley. The skirmish seemed stagnant as Thor supported them from a distance and Mjölnir continued to wreak havoc on the enemy special commandos' positions.

Then a guardian fighter descended from the sky and began supporting the robots in his group. It was a light fighter, armed with a single but powerful particle disruptor; in theory few vehicles were a match for the flexibility and power of a surface mech, but the pilot's acrobatic skill and shared tactics with robots on his own side began to rapidly unbalance the skirmish in favor of the guardians. Kurt looked for his alias on the strategy map: Shenlong. Of course. The impact of a long-range missile on his right shoulder returned his focus to the battlefield, where two heavy guardian mechs had managed to get out of the skirmish and were starting to get dangerously close.

- We have a situation! - Kurt screamed over the radio above the noise of his weapons as they were unleashed over the nearest enemy robot.
- Viable status, [jefe], the wall is almost terminated!
- It's Yong. - he said the name almost to himself, but it was enough.
- [Tamade], [tamade], [tamade]! - the engineer could almost imagine Kseniya pounding on the controls of her tank. - How do we act, [jefe]?

The lasers from one of the enemy mechs began to dent the front armor of Thor's frame, while its companion occasionally used its long-range missiles to conserve power as it tried to flank him in a direction parallel to the wall. Kurt decided to

concentrate all his weapons on the first robot: the two giants exchanged a deadly volley of shots in the closest thing to an ancient duel, face to face. The lasers of his opponent lacerated much of his armor and ended up severing his left arm, but not before the particle disruptor launched a terrifying lightning bolt that struck the right leg of the enemy chassis, reducing its mobility momentarily. The engineer took advantage of the damage and aimed his automatic cannon at the joint of the same extremity: the deafening hammering of his shots caused a scary hollow in the hip of his opponent's vehicle, which gave way under its own weight and fell to the ground rendered useless.

A surge of alarms prevented Kurt from rejoicing in his victory: the heat of his mech was high and the sensors had detected that the fighter had targeted him with his weapons and was coming at full speed. He partially twisted his torso to face the remaining robot and at that moment had an idea:

- Kseniya, keep firing the machine guns on the wall and update the cluster missiles.
- They won't work against that fighter [jefe], it's too fast.
- You will have an easy target... - Kurt sent a quick marker on the tactical map to the maintenance engineer and began to directly face the enemy mech, moving the back part of his torso away from the protection of the wall.

The enemy robot found himself suddenly face to face with Thor and his nerves played a trick on him, firing his missiles and his rail gun without aiming: the first ones passed by, exploding against a distant part of the wall, while the second hit the

remains of Kurt's mech's left arm. The engineer fired his entire arsenal into the center of his opponent's frame: a heat wave from the reactor punished the engineer for his abuse, who was already sweating copiously, but the result was worth it: the shells of his automatic cannon converged on the same point of the central torso where the entire salvo of its missile volley hit. The enemy mech shook with each projectile and missile received until they reached the heart of its reactor, which exploded spectacularly.

It was at that moment that he felt the brutal lash of the fighter's disruptor on the back of his robot, whose armor barely held, exposing its own reactor. Overload alarms, electric shocks across the dashboards and smoke began to saturate the cabin, but Kurt kept his eyes fixed on the tactical map. In it he saw how, indeed, the fighter had taken advantage of his robot's open vulnerability and had hit the exposed posterior torso with excellent accuracy. But performing his low flight close to the wall to target the mech had gotten him too close to Kseniya's tank, which he must have deemed harmless to his vehicle. In the top visor of his cockpit, the swarm missiles exploded like fireworks in a wide region above their heads, impossible to avoid. Another explosion joined the spectacle and the trail of flames from the falling fighter illuminated the sky of Draconis.

The cheers from both of them intertwined on the radio, too exultant to say anything coherent. Kurt started to cough and he reduced his enthusiasm to a wide smile as he tried to return his mech to a viable temperature. It was at that moment that the proximity alarm caused by an enemy missile

appeared on its sensors. Unable to move in his temporarily disabled vehicle, he watched the warhead impact his frame. But instead of exploding, it burst, splashing his entire torso with a flammable molasses that burst into intense flames. An incendiary antimech missile. Before his reactor blew him apart, he could see on the tactical map how an enemy displayed her alias and her position among the remains of the wall to him: Claire.

He appeared at his generator, screaming in frustration. That woman knew which buttons to push to drive him crazy.

The engineers won the event and Kurt achieved his all-time personal record in the "Battle for Draconis" experience. The Shenlong player sent a message to the Thor and Mjölnir pilots congratulating them on their strategy and thanking them for the great lesson received; the real names were never given. Kseniya spent the next cycle deferring the game again and again. Nikau, who had been killed in one of the tank's shots at the wall, confessed laughing that Claire had carried the incendiary antimech missile launcher from the start of the game despite playing as a special commando. Claire connected to a private uprooted recreation right after the event.

Kurt devoted his time in the next couple of cycles to perform the generic succession of recreations and citizen tasks. He connected with his friends occasionally, joining their experiences or sending periodic messages. The engineer did not receive any other direct assignment from Ifiok, just the regular ones. He met Raina in a group experience of the researchers, a massive masquerade and costume dance in an enchanted castle in which a treasure hunt was simultaneously carried out; she thanked him for the information he sent about the AI and promised with a smile on her face to come back with more suspicions in the future. When Kurt found that Nikau and Claire had teamed up on their own to solve the mystery of the castle and not feeling very festive for the dance, he left the event to perform an uprooted recreation.

He woke up a tenth later with a recent message from Aditi waiting for him. It was a simple invitation to a regular private recreation sent just

an hour ago, with no description. More surprised than intrigued, Kurt connected. The engineer appeared in a primitive cave sitting on fur in front of a smoking bonfire, almost extinguished. He had several animal skins on him, very inadequately covering various parts of his body, and a simple loincloth. His beard was more grown than usual and his body looked slightly wilder, including some hair and picturesque ambient dirt. He got up and moved next to a side opening in the cave: it was located at the top of a cliff, with a huge forest stretching below, between stony hills and the sound of a rushing river.

- I was beginning to anticipate that maybe you wouldn't connect. - Aditi's voice came from the entrance of the grotto.

Kurt found it hard to recognize the researcher's face as he turned around. She had several marks of primitive paint on her face and wore a full wolf skin as a cape or cloak; the fur of the animal's head covered her like a hood. Under it, other very small pieces of skin, impractical to fight the cold, scarcely covered her body, somewhat even more voluptuous than Kurt remembered. She carried a long bone knife held by a leather strap, a spear in one hand, and several javelins in the other. The engineer approached her but before he could say anything, Aditi put a finger to his lips:

- Shhh. It's time to hunt and you still haven't earned your furs. - said the researcher while offering him the spear. Kurt accepted the immersion smiling and picked up the weapon.

He followed the researcher out of the cave and into the forest. They soon spotted a deer trail and followed it for a long time. Aditi was guiding him, deep into her role as a veteran hunter. Kurt knew that the game was leading them according to a pre-established script, but that did not prevent his mind from willingly getting involved in the suggestive scenario. Not quite like the more realistic environments that he used to play as survival experiences, this recreation favored a more mystical and spiritual link with nature that harmonized very well with what he had seen so far of the researcher's personality. They found the deer drinking in a backwater of the river. Hidden at the edge of the forest, Kurt grabbed his spear and prepared to try to hunt it down. Aditi caught his arm and whispered:

- That is not our prey. - and they waited crouched.

Suddenly, a ferocious gray wolf leaped out of the nearby bushes and attacked the deer quickly and brutally, knocking it down. They let it tear the meat apart and start devouring the carcass when Aditi came out of her hiding place with a javelin and knife at the ready; Kurt followed her, holding his spear with both hands. The animal detected them instantly and began to growl: he was not about to let go of such a succulent meal. Moving the three of them in circles, performing more like a ritual dance than a realistic duel, the researcher suddenly shouted and threw her javelin at the wolf, which wounded one of its hind legs. Far from scaring it, the animal leaped towards its closest opponent, the engineer, who barely had time to raise his spear and impale the beast with it, the two of them falling together. Although mortally

wounded, the wolf continued to launch dangerous bites towards Kurt's face, until Aditi appeared and stuck her knife in the side of the animal's neck, killing him.

With the adrenaline still intensely pumping inside his body, Kurt sat up as Aditi inspected the wolf's carcass. She ran her bloody hand over her face, leaving a crimson trail on her mouth, and plunged it back into the beast's wound, coating it again with the red liquid. Then she approached the engineer and caressed his almost bare chest, leaving another dark mark on him. After looking satisfied with the result, she grabbed his neck and squeezed herself against his body to kiss Kurt passionately, almost biting him. The situation caused him an intense excitement and he began to answer her with all his ardor, but Aditi turned away from him firmly. With a mischievous and wolfish smile she licked her lips:

- There is still much left to act. - and indicated to him to carry his prize.

They started the long way back. Kurt was somehow grateful for the effort of carrying the animal, which helped to relax his body's unsatisfied yearnings. Once in the cave, Aditi put him in charge of the fire as she deftly gutted and skinned the animal. While Kurt was enjoying the primitive and mechanical task, the researcher surprised him by starting to casually talk about the real world:

- [Sumimasen] for not connecting earlier: I've been really employed these last cycles reviewing the planned genetic processes.

- No problem, I have also been employed. - Kurt argued, not sounding very convincing. - We are arriving at Calima and there's a lot to review too. - he tried to make it sound better.
- Have you registered that the latest data about the atmosphere records that the probability of life is very high? Regular CO2 fluctuations. - Aditi was still working on the remains of the animal.
- No. Is there an accessible report? - Kurt remembered his alarm to review Calima's data, but news like that would surely be notified to everyone.
- Perhaps not yet, they are just collecting the information this cycle. - the researcher picked up the meat recently extracted from the wolf and passed it to Kurt so that he could cook it while she continued cleaning the skin. - Even if it were carbon-based it would be [top] to observe new biological organizations.
- Unless everything is a simulation. - Kurt said laughing to himself as he placed pieces of meat on branches facing the fire.
- What?

Aditi finished scraping the skin and hung it on a rocky ledge in the cave near the side opening. When she returned and sat in front of Kurt for dinner, the engineer began to explain his conversation with Raina and his subsequent investigation of Omega's code. He took the opportunity to link it with the latest work assigned by Ifiok on the AI and his negative results in general. The researcher listened attentively as they ate the juicy meat of the animal with their hands, asking about some of the more advanced terms but quickly understanding most of the concepts: her agile intellect was almost

intimidating. When Kurt finished and after a few thoughtful seconds, she winced and shook her head:

- Technologists. - she used the word negatively. - What does it matter, one result or the other? If it is a simulation we are recreating it by our [vkus]; and if it is not, we anyhow live most of our existence in the virtual world. The human being is already biologically irrelevant.
- "Irrelevant"... - the engineer repeated the infrequent word, pondering it. - That simulates too [intenso]. Aren't we expanding across the galaxy?
- Our mission Pioneers? We are the third and how many have there been after us? Two more? The last one 2000 cycles ago. No one on Earth requires to "waste time" outside of the recreations anymore. The only scientific advances are to improve the speed and possibilities of the virtual life and they are less and less frequent because the number of citizens to be employed on it decreases. Soon the human being will not be able to distinguish himself from any animal hibernating forever. - Aditi's dark eyes showed a hardness unknown to Kurt so far, but they were too magnetic to be daunted by them.
- And what other option exists? Neither is my [vkus], but we all register that this... - Kurt gestured to the cave space, but he was referring to the whole experience itself, as his impression transmitted accurately. - ...is not possible in the real world. There are no more intelligent beings, or we have not found them nor will we find them any time soon. What other option do we have?
- Oh, I register what you say and I am updated with you. I have no better solution for our game. I only mark that the human being is at the limit of

its possibilities. The only thing I anticipate is that we become the creators of another species' game.
- Isn't that what we have already acted with technology? Promote ourselves and be the most [top] among biological beings?
- Be the best we could anticipate. - Aditi smiled contemptuously while shaking her head. - Technology is only a tool that has allowed us to improve what we already were. Advance the experience in the direction we had already selected as species. - the researcher looked intensely at the engineer for a moment. - There are other appearances that life can format and perhaps they will surpass us, or at least create something different from us. Other organizations, such as hive-minds, or other perceptions, such as a creature with full awareness and control of each one of its cells. Infinite combinations that we do not register or that only lack the intelligence to evolve.
- Is that why you anticipate reaching Calima and scan the life that may be there? Something different? - The sparkle in the researcher's eyes disappeared and Kurt had the strange feeling that he had somehow disappointed her.
- Partially, but it will have the same result: we will limit ourselves to record it, research it and classify it in one of our preconceived science lists. We will not even connect with it as we adapt to the planet to expand our sleeping species. - Aditi rested her head on her hand while she lowered her gaze to the flames.
- What would be your idea if you could invoke it? Mix with animals? Create a new species? As the Hindu gods of your cultural grade? - Kurt smiled playfully, trying to liven up the researcher. Without understanding how, the brightness returned to

Aditi's eyes and, a moment later, her mischievous smile.
- Well, I anticipate that there is much to learn from animals. - she got up slowly while staring directly at Kurt. - How to register your place in nature... - she turned her back on him slowly and suggestively. - ...feed on its fruits... - she slipped her wolf cloak to the ground, ending up covered only by the tiny skins over her curvy figure. - ...or join with the right partner. - she gave him one last saucy look and left the cave nimbly.

Kurt neither could nor wanted to resist the temptation and went after her. He saw her disappear at the edge of the forest laughing cheerfully and chased her, inflamed. Soon mixed impressions of the researcher began to flow to the engineer, playing to escape from him: sometimes she was Aditi covered in fur, sometimes a slender wolf. They chased each other for a while. She occasionally got caught and they kissed as they rubbed their bodies ardently, but she always ended up getting away: sometimes scratching or nudging him softly, sometimes feeling a playful animal bite on his skin while appearing as a wolf himself too. Soon he could feel himself chasing her crouched, as if trotting on all fours.

Finally Aditi arrived at a clearing near the river and lay on her side on the ground, ready. Kurt lay down as well behind her back and eagerly fondled her breasts as he squeezed himself against her body. The researcher violently removed his loincloth and invited him to enter her without further delay. The image of two wolves mating intermittently invaded the engineer's mind and, inspired or seduced by it, he positioned himself

behind Aditi and mounted her in an intense and primordial way. The wolf-researcher moaned-growled in pleasure and scratched his leg-paw with passion as she shook, aroused, until the wolf-engineer gently bit her shoulder to ram her deeply. Aditi sent a powerful impression of her own orgasm to Kurt as she pushed herself back hard towards him, which finished off all his stamina and caused the beast-man to empty himself inside her, shuddering with pleasure.

They collapsed together onto the clearing grass, exhausted, and fell asleep satisfied in the warm and pleasant night.

Kurt woke up in the armchair of his generator, sleepy. The engineer sat up to clear his head and saw the wolf fur draped over his retrofuturistic desk. His first reaction was to insinuate a childish and self-satisfied smile, but it was soon replaced by a more reflective frown. It was clear that he found Aditi fascinating and he held at least some interest for her. But there was some place inside the researcher's mind that he could not connect with, like the last part of a road that is never taken because someone always chooses to go back. It seemed obvious that Aditi's disgust towards humanity's current direction was not of a materialistic or libertarian nature, but an aversion to its stagnation and lack of new adaptations; however, it was too complex to perceive the ideas and alternatives that lurked in her mind. Shaking his head, he decided that a couple of encounters was a poor statistical sample from which to infer a hypothesis, and proceeded to check his messages.

There were just a couple of minor tasks and a ping from Nikau. In an imprecise place in the upper right part of his field of vision he felt the slow pulse of the alarm to review the information about Calima. It was configured to warn him in less than a cycle from now, but curious after the conversation with Aditi he decided to study the data right away. The engineer got up, opened several simultaneous interfaces and asked Omega for a hierarchical compendium of all known records about the planet, with a prominent section for discoveries made in the last 10 cycles. The details began to dump and organize themselves in the panels, which reacted and transformed according to his impressions.

Calima's mass was slightly greater than that of Earth; as was its size, but in a lesser proportion. It was a curious combination that indicated a less dense or compact lithosphere. Mass spectrometry and quantum radiation had determined that the atmosphere was similar to that of the home planet, with a higher concentration of ionized argon and neon that created a permanent and dense mantle of mist. The latest data, obtained at a much shorter distance, had located the fog specifically in the lower layer of the troposphere. Its uniformity demonstrated that the radiation from the red dwarf Rubra Fulgur had been unusually stable for millions of years or, more likely, the electromagnetic field of the massive planet to which it was attached, Rubra Fulgur I, reached and covered the satellite.

The widespread presence of water had been determined prior to the mission, but a report from just hours ago had discovered small cyclical CO2 fluxes in the atmosphere: statistical calculations predicted with 85% confidence that it was due to the effect of vegetation and/or animal life at very shallow depths. Extensive or massive continents were initially ruled out because of the uniformity of the fog, but significant island groups at the surface or not very deep were still perfectly plausible. Not surprisingly, if you believed in the remote possibility of intelligent life on the planet, it didn't have any minimally advanced technology or, as the most eccentric argued, it couldn't be detected or understood.

Of course, geneticists had already prepared different scenarios on the changes at cellular and

metabolic level required by the part of the crew that would move to live on the planet's surface in the medium term, after orbiting the planet for a while. They had focused on lung changes and various possible adaptations to the star's residual radiation if, as it appeared, it was not very powerful. But many other factors would require multiple expeditions to collect samples and data.

The ultimate goal was to have a fraction of the crew perfectly adapted to the environment, living in a permanent and autonomous base/city. Once the colony no longer needed the ship to obtain energy and materials, the spacecraft would be reused to travel to the next candidate planet. That part of the plan was in the long term, probably even requiring confirmation from Earth, after the 2000 round-trip cycles. Despite the fact that during the journey they had deployed mirror repeaters in orbit of various celestial bodies as part of the mission, the speed of the laser transmissions could not exceed the speed of light and there would always be a minimum delay of 1000 cycles in each direction. In fact, all the information they were receiving at that very moment from their home planet was lagging behind that much and it would take much longer until they received news from the other colonization missions before them.

After reviewing the data, Kurt wondered again if the more constructive part of the mission would push the crew to participate more in real life. All the processes were highly automated and the project parameters were taking into account the people's current activity, but it was obvious that a greater interest would help to develop the

necessary studies and infrastructures at a higher speed. He asked himself whether he would decide in the medium term to become an inhabitant of Calima or would choose instead to undertake another space journey that this time would never finish as part of the staggered generational replacement. With the virtual world so present in both cases, was it really a relevant choice?

The engineer registered some interesting data for a later analysis and closed the interfaces. There were just over 3 cycles left to reach the planet's orbit and once there he would still have hundreds of cycles to discover the answers to these and other questions. He decided to wait for the vigil shift and spend the rest of the time left as he had until now: recreating experiences.

The last group experience before the vigil was an evocative competition devised by the researchers to see which of three neighboring villages, inhabited by guardians, engineers, and researchers respectively, ended up with the most food stored in their granary. The teams could choose various tactics, such as harvesting quickly, trading with other villages, stealing from them, etc... It was a new game and it was fun, but Kurt had his mind set on the imminent arrival at the planet and had a mediocre performance. Nor did he find the usual calm and quiet in his refuge during the last tenth. When it was time to wake up, the engineer did it more anxiously than he remembered in hundreds of cycles.

Kurt jumped out of his tank and started getting dressed. He was about to put on the oracle when he noticed that someone had also woken up in the container behind him. The man, still naked, was totally motionless and in shock, looking through his visor. The engineer thought he was one of the blocked and gently shook his shoulder:

- Don't worry, player. Update your appearance and let's have something to eat... - Kurt stopped when he received the crewman's fully focused and conscious gaze.
- Haven't you scanned it? - his voice was concise and incredulous, far from the babble of the people with difficulty adjusting to the vigil.
- What? - the engineer turned to catch his oracle while the man spoke without stopping to look at the information on his visor.
- The columns. There are columns that...

A strong impact shook the cabin and Kurt was thrown towards the wall of the near platform. He hit his right shoulder hard and a powerful stabbing pain exploded in his head. When the engineer opened his eyes again he observed that he was not detaching himself from the wall. The strangeness of the situation was the last thing he remembered of the ship's descent to the planet, hurtling at high speed.

Notes

The cycle: measure of time used in modern times. After the abandonment of the various religions and their inaccurate calendars, the lessened importance of sunlight in people's lives and the new challenges of space colonization, humanity created its new time units based on the abstract and functional second. The value of the second was maintained, but the minute became 100 seconds, the hour 100 minutes and the cycle 100 hours.

To make the times mentioned in the book easier to understand, a few quick conversions are provided here:

- 1 hour → slightly less than 3 old hours (2.78)
- 1 cycle → slightly more than 11 old days (11.57)
- 1000 cycles → slightly more than 30 years (31.71)

On the other hand, upon reaching Calima, the crew finds it necessary to revert to dependence on the periods of light of the planet. The new **planetary cycles** refer to a complete day/night interval. Some measures mentioned in the book are repeated here as a reminder:

- Duration of the day or the night → slightly more than 5 hours (5.05) → slightly more than 14 old hours (14.03)
- 1 planetary cycle → slightly more than 10 hours (10.11) → slightly more than 28 old hours (28.08)
- 1 complete turn around the star → 103 planetary cycles → slightly more than 120 old days (120.51)

Finally, the descendants of the crew will adapt the terminology of their ancestors to their limited knowledge. In all later Calima Saga's stories and games, people use the term **cycle** to refer to the **planetary cycle**, and the term **long cycle** to refer to the complete revolution of the satellite around the star (the old concept of the year on Earth).

Language: with the advent of the nanomachines and access to virtual reality indistinguishable from the physical world, the use and variety of language was simplified even more. Complex thoughts and ideas were reserved for impressions, a higher channel of understanding capable of expressing concepts in terms, images, and sensations. Still, neuroscience had shown that the optimal development of the human brain, as it was understood, required learning and using language and writing. To this end, early education included both elements in simplified English and, additionally, extended to a second language relative to each person's cultural grade. The culture of origin, also a requirement for the formation of the individual's identity, was chosen at the time of conception depending on the variability in genetic traits and humanistic balance that the AI constantly maintained in populations.

In that environment, everyday language was strongly influenced by its secondary usage and very oriented to communicating quickly and in a basic way. The greater time spent in entertainment recreations and their legacy from older computer systems favored such terms, and although most people had learned and understood more complex and/or older words, they rarely used them and found it difficult to bring them up without thinking hard about it. On the other hand, some words from different cultural grades eventually became fashionable, caught on, or simply encapsulated perfectly certain concepts, and ended up being widely used by everyone.

- **Update**: to change or update the state of any object, thought, or concept. Secondarily, it is used to ready something or indicate that one is ready.
- **Act**: widely used, it implies any version of doing something or participating in something.
- **Anticipate**: to desire something, be it an object, an event, or how an event will unfold. Accustomed to the possibility of achieving virtually anything, anticipation becomes the closest thing to a longing or desire. Sometimes it is used for the act of predicting something, then used interchangeably with the term "Impression".
- **Appear**: beyond its common use, the term extends to showing up in a certain way or arriving at a place.
- **Bonify**: to reward or be rewarded, including oneself.
- **Block**: to paralyze or stop in some way, both others and oneself, for any reason. The term "blocked" is used interchangeably for both mental states such as confusion or daze and physical limitations such as immobilization.
- **Connect**: to join, reach out to, or set something in motion. In some cases also used to indicate focusing one's will on something.
- **Disconnect**: to separate, leave, or stop in one's current course of action, but in some cases also used to indicate being absent or unconscious.
- **Employ**: initially reserved for performing productive, reward-worthy tasks assigned by AI, later on will be extended to performing any purposeful task.
- **Scan**: the act of directing one's attention to something. After the technological advent of impressions and recreations, concepts such as looking or listening with the physical senses partially lose their meaning.

- **Format**: the style, structure, or intent of something.
- **Record**: to notice or take notice of something, either by oneself or to ask others to do so. While "Scan" can be translated/simplified to the action of looking, "Record" then does so to the fact of realizing what one is observing.
- **Impression**: to interpret or intuit, if it does not refer to the explicit fact of receiving impressions.
- **Invoke**: to call, to bring into coalition or to generate something.
- **Play**: to participate or take part in the event being referred to, which is usually called generically "game".
- **Mark**: to indicate, to point out or to make manifest.
- **Promote**: to obtain an advantage or to improve the essence of something.
- **Points**: initially used literally to refer to the points that can be used in recreations, later on will expand its meaning to encompass other concepts of value or wealth.
- **Remember**: to know or to have knowledge of something. Memory itself has a variable and/or fickle value in modern times; hence what is remembered at a given moment is that which is closest to what is known or understood.
- **Register**: widely used, it implies thinking, understanding or the act of memorizing something at the moment. Given the ubiquity of AI in the lives of crew members and its constant assistance, the term used to carry out a mental activity has moved more towards a passive event than a personal effort.
- **Require**: beyond its usual historical use, the term extends to any request, question, need or

immediate desire. See "Anticipate" for more complex or long-term desires.
- **Reproduce**: beyond its usual use, the term extends to transmitting or repeating any type of information, even speaking.
- **Simulate**: seem, resemble or possibly be something.
- **Solid**: something clear, correct or of quality.
- **Terminate**: in addition to its usual use, it is the usual word used to kill or finish off someone. Since the act itself is an archaic concept in the real world, the terminology used in virtual games is more commonly used.
- **Transition**: moving from one context to another, be it a physical point, topic of conversation, thought, etc.
- **Union**: obligatory intimate contact (not necessarily sexual) during vigils. Many actions or suggestions guided by AI aim to avoid the total disconnection of humans from reality.

- **[bouillie]**: pulp or thick liquid mass, used to refer to the reactive gel in recreation tanks.
- **[ennui]**: boring/boredom.
- **[intenso]**: absorbing or demanding concentration.
- **[jefe]**: denotes someone's leadership or mastery.
- **[kuaile]**: depending on the context, being happy, being fortunate or feeling grateful.
- **[lagom]**: sufficient or appropriate, neither too much nor too little.
- **[puto]**: foul-sounding, intensifies something. Depending on the context it can vary from pejorative to complimentary.
- **[sumimasen]**: to ask someone for forgiveness or demand it.
- **[tamade]**: foul-sounding, to curse or complain.

- **[top]**: gives maximum capacity or quality to something.
- **[vkus]**: someone's pleasure or enjoyment.
- **[zeichen]**: personal physical object carried by each crew member during the vigil.