

CASSIOPEIA TREMBLES

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Misha began his flight at 700kph free fall when the chemical engines on the Orca he had stolen sputtered unevenly open and began to exhaust. At the top of the Mendelssohn tower, half obscured by rainfall, three flying machines cut out of the air in pursuit, one of them smoking. The border was just three minutes away, but his angle of descent was wrong and the Orca was still unconscious. Even at about 13 meters per second per second, minus drag and thrust, there was no chance; he would have to stop putting this off.

The control orb, about 2cm diameter, was lying in a pool of saline on the ceiling just out of reach. He was practically useless stuck to the helm without it, but the gravities were too harsh to shift his hands over to it, and the control chair was so terrified it wouldn't let go. He needed higher-order functions operational now, but kicking the honeycombed cerebellus by his right foot, the closest brain tissue he could reach, was just getting juice on his boots.

It wasn't like he was giving up, but Misha gritted his teeth for fifteen seconds and the problem solved itself. A hunter killer in rear view, the damaged one, pulled into range and shot a harpoon tether through the webbing in the rear fin. The Orca lurched and the temperature must have risen a couple kelvin because the controls began to mist. It didn't stop there, but he didn't have time to worry about it as the ship, awake now but in spasms, inflated jaggedly with breath and the gravity spun down to one. The control chair's arms, little vestigial stumps with three fingers, relaxed around Misha's waist and he was able to stand up for a second and grab the orb before it fell to the floor thirty meters below. The arms waggled desperately after him.

The orb tasted terrible. It was overripe and covered in little sores that leaked from the last use. Misha closed his eyes and rolled it in the back of his mouth between his molars (where its texture started to shred his taste buds), and tried to get the hang of the flight

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interface: toggles for the two mucous jets, there was a wart that regulated the cargo sacs, and on the bottom he found a nubby clitoris that controlled pitch and yaw like a joystick. He bit down on the orb and it yielded control.

The Orca was too fat to riposte properly and too slow to shake its tail, but it was twice as heavy as they were and it had a thick skin that would come in useful under fire. Misha dug hard into the orb and the Orca straightened its descent through the rain, forcing his pursuers farther back into the ship's shadow. He was exceeding the downpour at such a velocity that the thick chitin on the front of the ship was beginning to blanch and peel against the rain. His pursuants wouldn't fare so well so they kept to his lee, but they were still gaining and could probably kill the Orca with irradiation once they got within a hundred meters or so. The damaged one, unless Misha shook the harpoon, would be there in thirty seconds, fifty seconds before he reached the border. He grimaced. He was being paid by the hour.

The Mendelssohn tower was still streaking by across half the vertical horizon. If he could access the schematics, he might be able to lose them in the infrastructure, a warren of protruding transmission antennas, domicile blocks, and waste storage tanks that wriggled uncomfortably on the tower's exoskeleton in the rain. Not even the best physical reflexes could navigate an Orca through a shifting maze like that—not without a death wish, but then Misha wasn't known for his physical reflexes...

The thalamic organ was almost impossible to find on the dashboard. Most of the controls had begun to rot long before Misha stole the ship and those that were still paying attention were unrevealing under the condensation. He wasted five precious seconds gritting his teeth about it before he spotted the thing growing in an odorous clump between two sweating fungal bulbs. The thalamic organ was a clump of hairs that ended in tiny fiberoptic hooks.

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These were meant to bind to sensitive tissues on the human body and relay nerve signals through to the local system brain. Half of the follicles had split ends or had shrivelled into mere wires, but even with limited bandwidth on an old corrupted model, Misha was the best, and his employers knew it. He stuck his hand into the organ. The active follicles swayed briefly then slithered under his fingernails and struck the cuticles, each one rapidly like a snake.

He felt his body begin to breathe in.

The thalamic link overrode his visual cortex and he saw the diagnostic interface for the Orca swim together on the back of his eyelids. This was more like it. He saw himself in third person through three optic slits in the room simultaneously, the usual: top-down relational, infrared, and a security scanner. An array of washed out icons on the side of the display gave him external access which, accessed, opened up into the Mendelssohn database, a corpuscular array of data that could be consumed and regrown like edible matter. The database was shaped like a long vascular system with mainframe representations lined up against the walls like ribs and him the size of a virus. Appropriate. He merged into a long purple fluid pathway, data molecules stripping by like the real thing, and pounced openly on a request carrier shaped like a red blood cell. The system's response was impressive. The ends of the rhizome constricted and acid entered the bloodstream, starching away information that could have been corrupted by his intrusion. Misha knew the drill but struggled with his slow data link long enough that he could feel the corrosives pumping burnout signals through his link into his parietal lobe. The sensation wasn't exactly unpleasant—multi-colored blotched grew and flashed on his vision like stroke signals—but it would be deadly if he didn't unmerge and pull himself together. He knew what he was doing, though, and long before any permanent damage was

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done he found a weak fibril in the rhizome and slashed it open. The data pathway decompressed and he was shot out back into the main database with a bloom of acid, the request carrier cell in tow. He found himself a corner by a lung-like structure and watched the acid billow and spread at 50x magnification. He waited.

He felt his body begin to breathe out.

The clotting agents arrived in no time. They were stubby, multiply tentacled structures of a build Misha didn't recognize, but could imitate. He decompiled the carrier cell's DNA with a deft touch into a series of nucleotides and restructured it appropriately in under 400ms, then he injected it into the lung-like structure to his left. It took only slightly longer for the biotic mass to reform.

He sent out a request for read permission from a random database—something cataloging humanity's greatest achievements—and lowered his request priority until he was pending. After the system acknowledged him but before it had processed his request, he broke cover and swiped one of the squirming clotting agents from the hemorrhaging rhizome, leaving the facsimile he had made behind. The agents began to cry in distress, and as hooked cauterizing turrets began to form out of the amniotic particles nearby, the library mind granted his information request. He and the captured agent were sucked into a ventricle in the floor just in time for him to see the turrets bake his facsimile into a powder.

He felt his body begin to breathe in.

The vein wasn't built to accommodate a biomass as large as the clotting agent he was carrying, and it struggled a little in Misha's grasp so their progress along the tube was slower than it should have been. The delay gave Misha time to access the tower schematics built into the brain of the captive agent. According to the schematics, the territorial border he had to

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cross to get to his object was on the 80,000th floor of the tower, and the information he was hired to break was in a research lab just below that. The tower topography leading up to that point was complicated, and on his trajectory there were only three discrete entry paths he could plot without colliding with too much of the tower to stay intact. The shortest one was too exposed, the longest one would take too much time, and there was basically no chance he would survive the third option. He chose that one.

When they were finally dumped in the archive chamber with the information he requested, he downloaded the schematics to his long-term memory and executed the microorganism with a wave of his hand. Then he ended his process.

He felt himself exhale in a rush as he returned to normal consciousness. He briefly reabsorbed his surroundings: control chair underneath, growth cultures for direct systems control in front, the transparent membrane for external visual input above, and behind him and below him was the rest of the Orca's cavernous skull cavity. Beyond that was the rest of the ship, an ugly mess, but the only thing between him and the end of the world.

Shudder. The Orca was falling asleep again. Misha wiped off a flap of diagnostic material that had begun to bubble and glanced down at a console log near the bottom of a scroll that gave status reports. Just after being harpooned a minute ago the console reported an unidentified compound entering the ship's bloodstream. Some kind of sedative. It was demetabolizing her, fast. To keep the Orca from crashing on the spot, Misha tapped at a panel and had the Orca release all her stored adrenaline. He could hear it rushing in gallons through the conduits above. The wrinkled old ship would probably have a heart attack when the high wore off, but hopefully that wouldn't happen before he landed her and got to where he needed to be: floor 78,334, section K, deep under the skin of the Mendelssohn tower.

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The damaged pursuer was ten seconds away from critical range and already glowing red hot with directed radiation. The temperature was up another twenty in the skull cavity and the hydraulics were beginning to boil elsewhere in the ship. He was starting to feel sick, too. With his eye on the altitude, Misha jammed the throttle with his tongue and the Orca, spiked, began its reentry into the tower's gravity well, dragging the harpooner and its two companions after. Suspended in dense, breathable atmosphere, the tower's volume and density gave it the magnetic and tectonic signature of an oddly shaped moon; it would be tough going for the tiny ships chasing him there, but even with a gravity advantage his chances were slim. The front of the Orca was burning and flaking off in gobs of pustulent smoke from the friction, and the back was melting under the pursuer's heat ray. Rock and a hard place.

Diving into the atmosphere gained him a good seventy seconds lead time on the two furthest ships, but the third was still attached by harpoon cable and was gaining again after a brief period of shock. Things were starting to explode on the dash and he had to do something about that irradiation or his engines would be smoking sockets in less time than it took to spew, which was looking likely about now. Gnashing his teeth to keep it down, he found the cargo control with a front tooth and flipped it, hoping he could ditch his cargo and gain thrust now that the Orca was under the troposphere. The ship heaved. He was in luck. About six tons of ingested vegetable matter and volatile digestive fluid ejected from the dorsal vent and exploded in the flight line of the gaining pursuit vessel. He heard the crash, even from 300m distant, and saw out the rear membrane the crumpled bulk of the enemy flying machine spiral into the distance, its harpoon stinger trailing. Two more to go. He hoped the old adage about exercise on an empty stomach didn't apply to 500m-long freighters. Deep breath:

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Out of a turbulent bank of clouds emerged the bald, shiny heads of spacescrapers that lined the surface and below them a mess of organic infrastructure connected by terrestrial roads and the smog that covered them like skin over veins on the back of a hand. Closer, closer. The Orca roared closer in between the spaces, grazing a tall scaled relay tube that fed one of the spacescrapers sweeping by. The tube recoiled and flapped nervously as they passed it. Misha double-checked the trajectory with the scanned data on one of the display membranes—visible now that the temperature had settled—against what he remembered about the optimal flight plan from the tower's schematics. Everything seemed to match up. Before he knew it he had pierced a last sheet of haze over the tower plants and was running against the ground, maybe 60m supercutaneous, with a proximity alert gurgling from a mouth someone had installed in the control chair. The wriggling shapes of whichever government owned these structures (they were the same across the solar system—perfected and perfected) swooped overhead and underneath by 3m margins, some of the mobile ones running alongside like dogs might. They were black flipbook frames against a soggy, paperous sky. Floor 85,877.

Humanity had mastered the mechanical form, and then the biological form, and then they had done what no other living organism had done and mastered themselves. Racing by in vehicles below towards unknown destinies, Misha watched his people with detachment. They knew their limits so completely that each lived life without doubt. Science had given them all the knowledge of the limits of human ability, and discovered they were finite. So many centuries spent in delusion. Now, the human race could be confident that it lived life as healthily, as passionately, as creatively, as completely as possible while still staying human. It was not a machinistic or superefficient vision, like humans once strived for. Those were

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arrogant and flawed times. People today had limits, personalities, bad teeth, certain skills, desires, but they were those things to their fullest. After so long searching for its meaning, humans had found actualization at last. And this was it. He stared at a spacescraper. The realistic limit.

Well, his ability to be distracted wasn't as limited as he would have liked. While he was gazing down at the city, one of his pursuers had snuck up behind him. Misha got one good luck at it, nice and close, its thin insectoid pincers, its underarm warheads, an oversized abdominal area probably swollen with venom. All very standard. These sorts of light pursuit craft were usually installed with a special module specific to its function, like the heat ray on the last one. This one had an explosive projectile bolted absurdly to the nose cone. He watched the bolt eject and the rocket tail flare up with a sort of stupefied awe before coming to his senses seconds before impact.

Misha jammed the control orb into his cheek and the Orca pitched as hard as it could, its nose tilting sharp into the skin of the Mendelssohn tower. The ship began to scream as the nose was torn away like wood on a sander and the connected hull ripped through three housing blocks and continued through parks, refineries, roads, and workplaces that flew apart like papier mache. The rocket and the pursuit ship streaked past as the Orca lost velocity and disappeared in a flash when they hit each other trying to come round. Still stuck to the surface by friction, the Orca levelled off at 150kph under thrust. There was almost as much adrenaline in her fluid links as there was blood, so the Orca pulled out of shock quickly even though she was bleeding heavily from the stump where her nose used to be, and Misha was able to cut her chemical engines. He let the ship coast to 60kph, jammed on the thrusters, and tore himself laterally out of the rough. Free, he pivoted against the ground, nose up, and

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brought the engines to bear against the surface of the tower. The blast incinerated almost 20 square km of living real estate, but it also rolled him out of harm into a wide service canal that ran tangent to the border and let him pick up speed again. Scraping up the sides he broke cover to check his distance and saw it wouldn't be long if he could dodge a blockade just a thousand meters up. No sign of the third pursuit ship, but sirens were pricking his thumbs from behind him and he knew the day wasn't getting any better.

He hopped the blockade going three-hundred over waving arms and flak. The Orca took some shrapnel in the fire, somewhere important Misha guessed because he was losing altitude again and there was nothing he could do. A couple of unmanned interceptors jumped into his wake just after the flyby and were, like every other damn scow in the solar system, gaining easily. He came around by eye and caught one in the engine intake when it swerved to escape and had only a moment of brief satisfaction before the other exploded kamikaze off the bow. The force took off the entire right third of the Orca which went crashing groundward into a steam column and sent the rest of his ship spinning. He only got control back because the spinning ship hit something, and the only remaining engine was still, unimaginably, burning fuel.

Now he really wanted to throw up. Half the orb had gone soft in his mouth along with controls for atmosphere, external input, and most importantly landing gear. But he was a lucky man, really, because somewhere in the confusion he'd crossed the border and the police were hanging back. He could see floor 78,000 on the horizon so he reangled the ship, which practical would have been possible with just a good shove, guessed which arc would get him close before the ship fell apart, and closed his eyes. They had been open so long it was like cheap sandpaper on his eyelids.

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Misha coasted into a zero-g canyon near section K and ground what was left of his burning Orca into the landing pad. It was a bumpy ride, but he hardly felt it after the run. He hated piloting so he was almost glad to see his ship was so totaled it would never get off the ground again, and without the little clawed feet that it had been evolved with as landing gear it probably wouldn't make it to null velocity alive. He felt the control orb disintegrate into a putty in his mouth, and any remaining phosphorescence on the dash spluttered out as the ship ground to a halt. The Orca was dead.

Misha pried the withered arms of the control chair off his body and began the long climb down to the bottom of the skull cavity. Normally the brain stem—a long rigid chain that tipped at the control chair in the center of the skull—would relax when the Orca was in a landed position, but with its death the ship had begun to ossify and he was stuck 30m in the air. Luckily, it also meant the brain stem was no longer pulsing with electricity, so he was able to climb, disc by disc, down to the surface, cut open a transparent membrane, and walk out onto the landing pad. From here he got a good look around. The ruined hulk of the Orca stood alone on the wide, horizon-length surface under his feet. There didn't seem to be anyone around. Actually, he hadn't seen a single living organism since he crossed the border. He pulled his foot out of a refueling tentacle that had just been left lying on the runway. Well, not really.

When he turned around he saw the only exception: parked fifty meters away, glowing softly under the blue light from the top of the canyon, was the third pursuit ship. There didn't seem to be anyone in it, at least, but all that meant was that he could expect an ambush before lunch. It also meant he had a ticket out of here when the time came.

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It only took him a minute to figure out where he needed to go. He was shaken up by the crash but he could still remember the tower schematics from the download. Keeping them in mind would give him the edge finding the interphase he needed and would keep him from running into any dead ends. Honestly, he had expected more of a fight in this so-called maximum security area, but perhaps that was forthcoming. According to his records, the route seemed easy enough from a nearby manhole. It connected to an asophagal pathway that ended in some muscle tissue. He thought he would be small enough to slip through the myofibrils and into the interphasic chamber beyond. Straightforward, right?

Before he got himself into any more trouble, he recalled his mission file. It was pretty straightforward, too, but he wanted to make sure he wasn't forgetting anything. The brief of it: "penetrate tower section specified, access specified database (ONLY IN LOCAL MIND), retrieve and modify specified hex chains in daemon managing ROOT." It was an expensive target. The root of a nervous system was typically the most dangerous location for an intruder because it was so huge and critical to the relative organization of rest of the system mind. Without a healthy root, the relationship between cells and organs containing cells disintegrated and their data, though not lost, often became corrupt and inaccessible. He'd been asked to do root canals before and the effect was not pretty. Whole social systems could fall apart without a functional technology to bind them. He'd made some powerful enemies over the years. Anyway, he had no idea what the hex chains he was supposed to replace would do, they were too long and complicated. Whatever changes his employers—they called themselves NETHUNS—wanted made to this database, it was very precise. Not his problem to wonder, of course, since he was being payed in planets.

He found the manhole, hauled its cover away, and slipped into the darkness. The

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asophagus was steeper and slimier than he expected so he slipped and slid down the surface uncontrollably, arms and legs punching out at the walls. A sphincter that had half-contracted broke his fall before he broke his neck in the muscle fibrils crowding the lower half of the tubule; on these he was able to get a foothold and climb down like he would a ladder.

At the twist in the tubule where his schematics indicated he could break through, he tore as hard as he could at a ridge in the epithelium between two cuboidal skin cells as big as his head. They made a peeling noise as they parted and Misha began to push himself through. With a plop he was ejected from the opening into a blindingly bright chamber, and fell. And fell. And fell, and landed sprawled on a cold, flat floor, unconscious.

When he woke up, there was a big guy standing over him with a little gun pointed at his face. He had bad teeth, too. Behind his lumpy head, which was fazed with a fine fur that made his scowl seem ridiculous, Misha could see the scar in the ceiling where he had fallen, so he was still on target. He looked at the little gun, cocked, probably heat-seeking. Yeah, on target. The big guy began to talk, but in some language that sounded like frying eggs, and since Misha didn't want to think about food right now, he let his eyes wander while the dude's mouth did its thing.

The interphasic chamber was huge, which was why he had fallen so hard. He must have fractured a couple bones, but could still be mobile if he wasn't pinned down by the pain and the muzzle of a single-shot pressed against his crown. He'd be needing those bones in a minute. Eyeing the grunt, he hoped they'd last longer than his Orca's did under fire.

He forgot about it when he saw the thalamus they had installed here at the back of the room about 15m away. It was a thing of beauty—a clean rectangular chamber with the latest

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loading mechanism, a nonmediated interface, and more throughput than the fastest human brain could ride. If he was going to finish this gig, he'd need wetware that wide.

The grunt stopped talking and wanted him to get up. At least he guessed by the way he was shoving his gun in the air that standing up was in his day plan. Big mistake. The grunt got his wish when he raised his arms for the third time and Misha sprung up, gritting his teeth against the pain, and held the big guy's firearm at ninety. Several shots rang off but got lost in the volume of the room, and when Misha was sure the chamber had paused to reload, he went underarm and twisted, knocking the man to the side and to the floor. After that, Misha wasn't going to do much good going hand to hand with this guy, except maybe hurt his own ego, so he wasted no time getting to the link station. He heard the grunt shout behind him, a universal language. All the dude needed was one good shot, but Misha wasn't going to let him get it.

He heard the gun behind him chime the end of its reload cycle.

Misha put his palms down on the bottom panel of the thalamic relay, which looked deceptively like a blank rectangular box embedded sideways in the wall. There were no feelers on this modern model; the interface was direct. In the blink of an eye, a .002mm sheet of transparent crystal descended from the top of the box and sliced his hands from his arms. The sheet was frosted with billions of synthetic nerve endings that bonded to receptors in his severed wrists and gave him instant access to what would be analogous functions in the linked form of his identity. After linking, the sheet would retract, leaving a glue, and his limbs would bind again in under five seconds. The boot screen for the terminal's database materialized on the back of his eyelids in an acid flash and Misha was linked in to root at close to light speed.

He heard the grunt's gun slowly discharge.

Nanoseconds after link-in he was at large in the system brain, snooping for holes. The initial firewall was a self-repairing neural net that was the most sophisticated upgrade he'd ever seen, but nothing he couldn't handle. He could do anything with a link given time, that's why his employers picked him. Thing is, even though the wetware firewall was quickly shorted, the software was adaptive and would take some subtle work to neutralize. But, even still, this was more like it. Now that he was back in a system mind he felt like a God, elated that he was finally doing what he was best at. Subtle work? No problem.

He changed his identification parameters to something complicated and let the system scan his profile for security use. 10 picoseconds. The public root domain (for guests), a bland podlike chamber with vaulted flaps, was clearly not used often. Three ultramodern sensor bots kept an eye (or what passed for one) on him at all times and defragmented the space behind him if he moved. He guessed this was for efficiency, but it was the system's first obvious weakness—covering his tracks. He called for write access on the whole room, which was within his user rights, and overwrote the open spaces with 100-way garbage. This kept the sense bots half distracted trying to clean up while he duplicated his mode and embedded it in an identity trap. When one of the bots tried to purge it, its public appearance transformed to match his—a sort of swirling capsule—and the other two bots started the scanning procedure standard for new arrivals. The system identified the bot and granted its new mode full write permission. Before it realized that he was using the same mode, Misha crossed into private domain, now with access, and deliberately trapped himself between two shields of the software firewall. It didn't take the bots long to fix the permissions error and they went after him into private domain. Single-minded, the bot in front neutralized the firewall in which Misha had embedded himself. The breach caused a massive security alert and in 5 picoseconds an

impressive standards daemon, shaped like a phalanx of white blood cells, flooded into the room and began to erase the "aggressive" bots, which were no match. The security down, Misha slipped through into root proper, a cathedral of crisscrossing data in globular neuropeptide trails, stunning spirals of stunning spirals of spirals ad infinitum, and tiny quantum fluctuations that sparkled across the limitless sky of the domain like second-long stars.

Misha had never seen so much data aggregated in one place. A gigantic cortex of information blocks swallowed all attention in the spatial center of the system space—wider and taller in representative scale than a thousand Mendelssohn towers. There must have been billions and billions of zetabytes of base-4 numerals—it would take several thousand cubic kilometers of incredibly sophisticated biomemory to store even a fraction of the information here. And it was all local, somehow... Misha gaped. The entire mass of the Mendelssohn tower would not be enough even if it was made of solid memory tissue. What could it be??

In the back of his mind, Misha heard superheated plasma leaving a magnetized firing chamber.

He pulled himself together. He didn't have time to gawp all day if he wanted to outrun a lump of plasma traveling at 5000m/s towards his head, no matter how much bandwidth he had. The human mind had its limits, after all. He sent a couple of A* search algorithms scurrying up the cortex for his specific hex chain. Even riding on the back of an optical impulse, though, it would take the process close to three million centuries to complete, but he had to try something. As an afterthought, he attached a nonreal destination to the algorithm's container that would attract a lot of attention, hopefully diverting more curious maintenance or security microforms. Maybe they would pick up on the search algorithm's target and repair

its location, if they knew where it was, that is. Misha would be surprised if a system this enormous could keep track of itself without half the wetware's tonnage dedicated to central processing. As an extra precaution, though, he trapped his path with random symlinks in case he was discovered.

Even though the data stack was unimaginably huge, Misha guessed his employers wouldn't have gone to all this length to modify nonessential systems, so he started snooping around, accessing files, looking for promising targets. He was baffled by what he found.

At its most easily accessed scope, this data was, as was typical, stored in base-four with numerals paired in specific chains of nucleotides. Standard DNA. Larger pattern formations revealed repeating chains of identical or similar sequences bunched together, followed by even larger sequences that floated around in system space like cells would. Pulling out and out he began to recognize things in the helical pattern that were unusual for a rigid data construct, the way things were changing... He also noticed nonorganic, digital structures... He blinked, or what counts as a blink without corporeal form. This was a symbolic representation of vegetable, mineral, animal, physical, chemical, and all subvariations. The fabric of the universe contained in a single neocortextual structure. And his job was to break a piece of it. Which piece, he wondered?

Just then he lost the signal from the search algorithm he had sent and was almost lobotomized by a legion of system antibodies that swooped in from three directions, glowing with ultimate access and scrambling the bit order around them. Several of the microbes, swollen warriorlike vessels with razorthin mesh surfaces, disappeared through his symlinks, but six or seven were left. He was playing guest court, so he decided not to try his chances losing them in the datascape, not after having his mind blown. Instead, he plunged into a

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nearby coriolis of cells and programmed a fast acting virus from memory. Before the antibodies could catch up, the cells had self-replicated into a hollow sphere that contained him. He could hear the antibodies cutting through with brute force on the other side, though, so he bonded himself to a cell wall, dispersed the cluster, and tried to float away as associated debris.

It managed to confuse some of them, but three of the antibodies were too fast and too smart. He used the bonded cell as a shield against the first which struck him hard in the front and then used the momentum from the blow to knock a second aside with a strong jab he wrote from scratch in real time assembly. He coded an amino acid chain that took several hits from the third antibody's shell, then he torqued savagely and sent it flying off like a baseball. He unbonded with the burst cell, and with only two to deal with he was agile and practiced enough to avoid serious mental damage from their scramblers. He kept pressure on one of them until it was reduced to somatoform and the second wiggled away for reinforcements. A servant mind as large as—... what? the existing cosmos?—probably had unlimited offensive resources at its disposal, so he made double-time back to the main cortex after his mission objective hoping he could make it before being overwhelmed. He stared hopelessly at the spinning cylinder of data.

Then, out of the whirl, he saw it. Just for a moment, a helix group that looked eerily familiar swung out and back into a spiral arm of opaque data. He sped after it, sure he was followed not far behind by a bunch of big, bad security programs. He dove into the spiral arm and began to flail in the avalanche of data looking for something, anything familiar. He was the best, but there was no way he was going to find the daemon he was after. The human mind was adaptable, creative, perfected, but it had its limits. Somehow, he just plucked the data strand out of the infinite whirlwind and stared at it, the hex chains matching up in

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sequence with the model he had memorized—the header was the same: CASSIOPEIA. He couldn't believe it. He just couldn't. The realistic, scientific probability of him holding this data in his projected hand was smaller than the chance he existed in the first place. Something was wrong. It was like he had been expected to find it, or that it had been given to him...

He gazed into the new hex bonds, trying to ascertain their purpose. They looked so familiar. He thought harder, wasting every second he could before he had to make the changes and get out of there. Staring at his own virtual hand, it came to him. The hex sequences in his unconscious form were identical to those of the data core in his grasp. They blurred together like water over water. Now he knew why it had been so easy for him to find: he was holding the fundamental atomic formula for his own DNA, and someone wanted him to change it. He trembled. How?

There was no way to tell. No time. He had been located and a fleet of system predators began to assemble out of code fragments nearby. He thought back to the perfected but dreary cities on the Mendelssohn tower, to breaking systems because it was what he was best at, to nausea. As limited as it was, they were human limits. To change them would be to change his humanity. He couldn't. He couldn't. He was the best example of himself. To change his humanity would only diminish him.

He released the code as the predators formed in full around him. They didn't kill him, which was surprising and well within their capability. Instead, one of the organisms seized his code in a great pincer. It came to Misha as he watched the huge organism splice and augment the hexes that the system mind was modifying the same data he had been tasked to change, in the same way. The system mind had used him to find his own code, just like he had tried to use a carrier impulse to search the system's cortex seconds before. His tricks. His maneuvers.

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His arrogance—to prove his limitlessness—had summoned wrath upon him. The predator cell finished modifying the data—his DNA, and the effect was instantaneous.

He felt his abilities sap. His thalamus shriveled inside his brain and, unable to conduct enough bandwidth, was cut out of the link back into reality and the firing line of an energy bolt.

The grunt checked the body of the fugitive for evidence but had to make do with a blood sample. He had tried to reason with the man, now a thin, dirty lump on the floor, but he had known the result was inevitable. His mission had been simple: the man had to die to save the human race. Why exactly was unclear. He looked different dead, somehow redeemed, like life had changed him when it left him into something diminished but beautiful—an innocent sacrificed to appease the gods for another's sin.

by: Drew Castalia