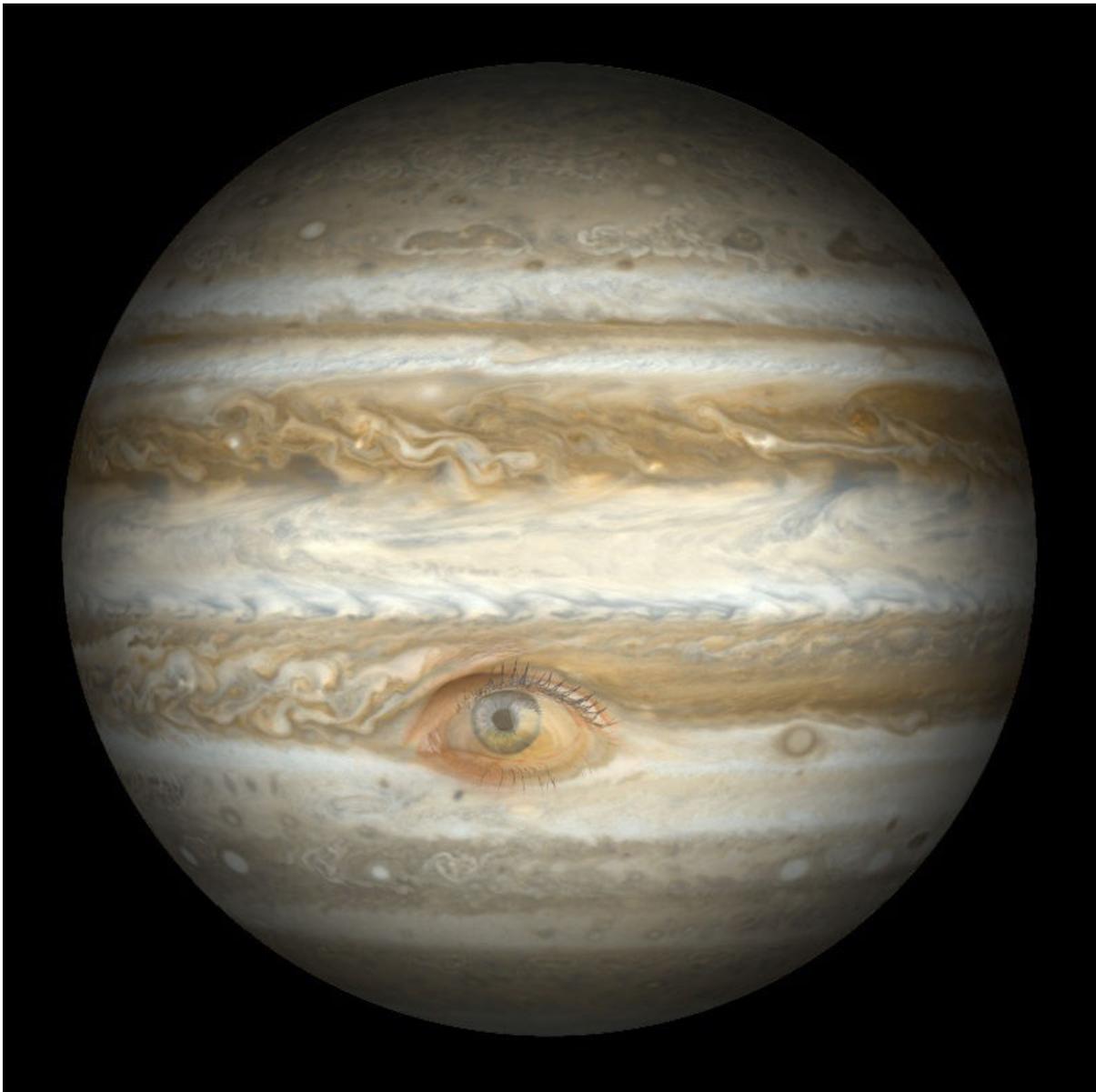


Indigo Latitude

*An adventure for Eclipse Phase
by Anders Sandberg*



Background

The TITANs were active across the solar system, including the Jupiter system. The Carpo installation (destroyed with antimatter charges 1 AF), the devastating outbreaks on *Zeus Station* and the Adrastea mining platforms, as well as the mysterious fate of the Synnott base on Io provide ample evidence. Still, compared to the devastation on Earth, Luna and Mars and the megaengineering at Iapetus the Jupiter system seems almost suspiciously free of TITAN artefacts. This is of course wrong: the TITANs were quite busy at the largest mass concentration outside the sun; it was just that most of their activities were hidden from transhumanity.

One of the artefacts constructed by the TITANs was a floating factory in the Jovian atmosphere. It might not be the only one (even though it is enormous, it is dwarfed by the giant planet and hidden under clouds and electric discharges) but this is the only one discovered by transhumans. It is a treasure, trap and threat all in one.

During their rapid evolution the TITANs at one point were considering seeding the solar system with self-replicating technology and turn it into a Matrioshka brain. Before long they advanced beyond that stage and began to explore more advanced femtotech, the gates and other incomprehensible technologies. But some early systems remained. The factory is one such early transcendent artefact: amazingly powerful, but still merely ultra-advanced nanotechnology and superintelligence rather than something *truly* alien.

The installation was discovered by gas miners from Owen Deuterium Solutions a few years. Knowing what was best for them, they quietly and urgently informed the Jovian Republic navy. The navy immediately moved in to maintain total security and secrecy, setting up project "Indigo Longitude". The aims were 1) to prevent any danger from the installation, 2) keep other groups from discovering it, and 3) to investigate it.

Indigo Longitude is now run under the double cover of a Jovian Republic Naval Research Agency-run gas mining and energy production experiment codenamed Cloudy Trombone. Cloudy Trombone operates a "secret" floating gas mining aerostat, Jovanovich, hovering in the upper Jovian atmosphere, apparently experimenting with deep atmosphere tethers. Owen Deuterium Solutions was bought by the Republic and is operating Jovanovich. The work at the aerostat is real and of some military relevance to the navy, so the cover is not too implausible. That engineers, scientists and other personnel is shipped down to the aerostat under great secrecy looks just like typical military paranoia. In reality they are then shipped further down using the tether to Indigo Latitude, where the real work takes place.

Jovanovich and Cloudy Trombone



"We are only seeking Man. We have no need of other worlds. We need mirrors. We don't know what to do with other worlds."

Stanislaw Lem, Solaris Ch. 6: "The Little Apocrypha"

Jovanovich is a deep aerostat floating within the Equatorial Region at the 2 bar level¹ among the ammonium sulphide clouds. Unlike a Venusian aerostat it needs active buoyancy from a hot air balloon: the terrestrial atmosphere is heavier than the Jovian air at this level. The balloon is an ellipsoid with a reflecting top and a black underside, making use of the infrared radiation from below. Shuttles dock on an unfoldable gantry, an experience even the best Jovian pilots find slightly hair-raising.

The aerostat has about 100 inhabitants, mainly Owen Deuterium engineers and military personnel. A sizeable fraction of the activity revolves around testing various forms of deep atmospheric deuterium and He³ gathering. It is a typical semi-military Jovian installation: highly regimented, somewhat drab. The high gravity doesn't make it better.

The Cloudy Trombone tether experiment involves lowering superstrong fullerene cables into the deep atmosphere for sampling and experimental energy mining. However, the cables are also used as an elevator down to Indigo Latitude. This is secret to most of the Jovanovich crew, although quite a few have put two and two together and sensibly keep quiet. Other experiments involve mapping the infrasound topography of the atmosphere, testing the ergonomics of high-gravity exoskeletons, and electromagnetic measurements "from the ground" of the Jovian magnetosphere.

¹ Since Jupiter lacks a surface, altitude is denoted by atmosphere pressure.

Going down the elevator by capsule is a frightening experience (but still better than trying to land a shuttle on Indigo Latitude). The 100 km long cable is tethered between Jovanovich and Indigo Latitude, strummed by the Jovian winds and electric discharges: everything vibrates with infrasound. During a normal descent the capsule will experience at least a few close lightening strikes. When the capsule ascends it will usually be coated with ice as it breaches the water cloud layer. The project is proud to only have lost the capsule twice...

The technician offered me a smartpatch "to make the ride smoother". I was about to decline when I saw the pity in his eyes.

A minute later the capsule was descending along the cable. It was a sunny day with just some light cirrus and a halo with complex sundogs (octahedral ammonia, I guessed). Jovanovich aerostat dangling under its balloon looked small and festive in the yellow light across the cloudscape. An escaped toy exploring a wonderland of air.

Then we descended into the cloud deck. As it got dark I began to notice the rumbling. It had been there all the time at the border of my consciousness, but now without the distraction of anything to see outside I became fully aware of it. It was deep, far deeper than I could properly hear. It was a vibration in my bones that reminded me of a remote earthquake that never ended. At first it was just noise but soon it took on a disquieting presence, an infrasonic hateful murmuring. The bloodflow of a sleeping giant.

The capsule creaked. Before that there had just been occasional ticks as materials adjusted to different pressures and temperatures. This was something actually deforming. A sudden sway and I tensed. Sergeant Dr Pinoy, strapped into the seat next to me, looked up from her display and tried to calm me. "Relax: it is just normal. It will get a lot noisier further down." She was right. As we descended into the darkness the creaking got louder and the capsule swayed and shook. The giant was no longer sleeping but restlessly tossing in bed. Our microscopic craft, hung from a spider thread across the wild sky, jumped and danced as gusts of hydrogen hit it.

Then the lightening began. At first I just noticed diffuse red flashes. Then everything turned into pink brilliance and the noise rose to a roar: the giant was awake and angry. He wanted to kill me personally.

Two hours later we were still descending through the murk. The worst shaking and lightening had stopped but I could feel it strumming the cable holding the capsule. After the initial panic I had settled down into a state of constant readiness for instant, dramatic death – a death that never came. By now I was just numb and exhausted.

Suddenly Sergeant Dr Pinoy looked out and pointed: "We are here!" It was hard to make out in the reddish gloom but I got an impression of something black and irregular. A coral reef. Or maybe a torture implement for murderous giants. She turned to me "Sergeant Labonne, welcome to Indigo Latitude. As you will discover, there are things more frightening and glorious than the weather down here."

Indigo Latitude



The installation

Exterior

The installation looks like a giant doily 10 kilometres across. The surface is a mixture of large smooth black domes and sharp towers/thorns; in the dim light they can usually be seen because of the ongoing coronal discharges and condensation trails they leave.

It is located at the 10 bar level, below the water clouds. The surrounding atmosphere is a murky mix of gases, still not dense enough to be a liquid but dense enough to provide a perpetual mist. The temperature here is about 320 K, which produces a sweltering 47 degree C indoors temperature.

It hangs suspended in the atmosphere using unknown technology, perhaps something like the fixor devices found on Portal. While this is interesting from a research standpoint it also means that the installation is not moving exactly with the atmosphere and is hence subject to hurricane-level winds, making approach deeply problematic with shuttles – it is possible, but it takes a daredevil pilot.

The structure consists of a continuous system of domes and connecting structures, as well as “palisades” of freely hanging 100 meter needle-like objects connected to the main structure through super-strong fullerene cables. In fact, the whole structure is far less massive than it looks, and many structural elements seem to be thick tension-bearing cables. The central dome is over 2 kilometres in diameter, with secondary domes several hundred meters across. Between the domes there are massive hallways through the connecting structures, which themselves appear filled with small tunnels.

The connecting structures have vertical shafts running through them (perhaps for cooling), inaccessible from

the interior but forcing the hallways to snake around them in organic patterns. There are also “blades”, long flat structures that appear to only let through a few hallways. They are believed to contain material stockpiles, as does the dome ceilings.

The edges of the installation are also equipped with many comb-like structures, and there are openings that appear to be atmospheric intakes. The atmospheric intakes branch into fractal trees that likely absorb useful elements from the gases if needed. There are no airlocks or other forms of normal entry anywhere; the first exploration group made an opening using shaped charges.

While the top of the installation is armoured and dense the bottom of the installation is more porous. The floor of the domes is a fractal mesh that appears able to move aside. In fact, the mesh size is also so large in the main domes that a human can fall through it; sensible people keep to the edges.

Interior



“Our faculties of perception are consequently limited even as regards fairly simple phenomena. The fate of a single man can be rich with significance, that of a few hundred less so, but the history of thousands and millions of men does not mean anything at all, in any adequate sense of the word. The symmetriad is a million — a billion, rather — raised to the power of N: it is incomprehensible. We pass through vast halls, each with a capacity of ten Kronecker units, and creep like so many ants clinging to the folds of breathing vaults and craning to watch the flight of soaring girders, opalescent in the glare of searchlights, and elastic domes which criss-cross and balance each other unerringly, the perfection of a moment, since everything here passes and fades, The essence of this architecture is movement synchronized towards a precise objective. We observe a fraction of the process, like hearing the vibration of a single string in an orchestra of supergiants. We know, but cannot grasp, that above and below, beyond the limits of perception or imagination, thousands and millions of simultaneous transformations are at work, interlinked like a musical score by mathematical counterpoint. It

has been described as a symphony in geometry, but we lack the ears to hear it."
Stanislaw Lem, Solaris

The main connecting hallways between the domes are very large, built to transport large pieces of equipment. There is however a labyrinth of smaller connecting hallways, running down from 10 meters wide to the microscopic. They appear to have a fractal structure with typical shapes repeated on ever smaller scales with minor variations. Most surfaces are covered with a smooth bluish enamel, which consists of interlinked micromachines.

Walls sometimes have alcoves and small chambers, in sizes ranging from rooms to glove compartments. Some are covered with a diamond sheet, others are open. These chambers are potentially fabricators. Many hallways also have potentially dangerous magnetic fields.

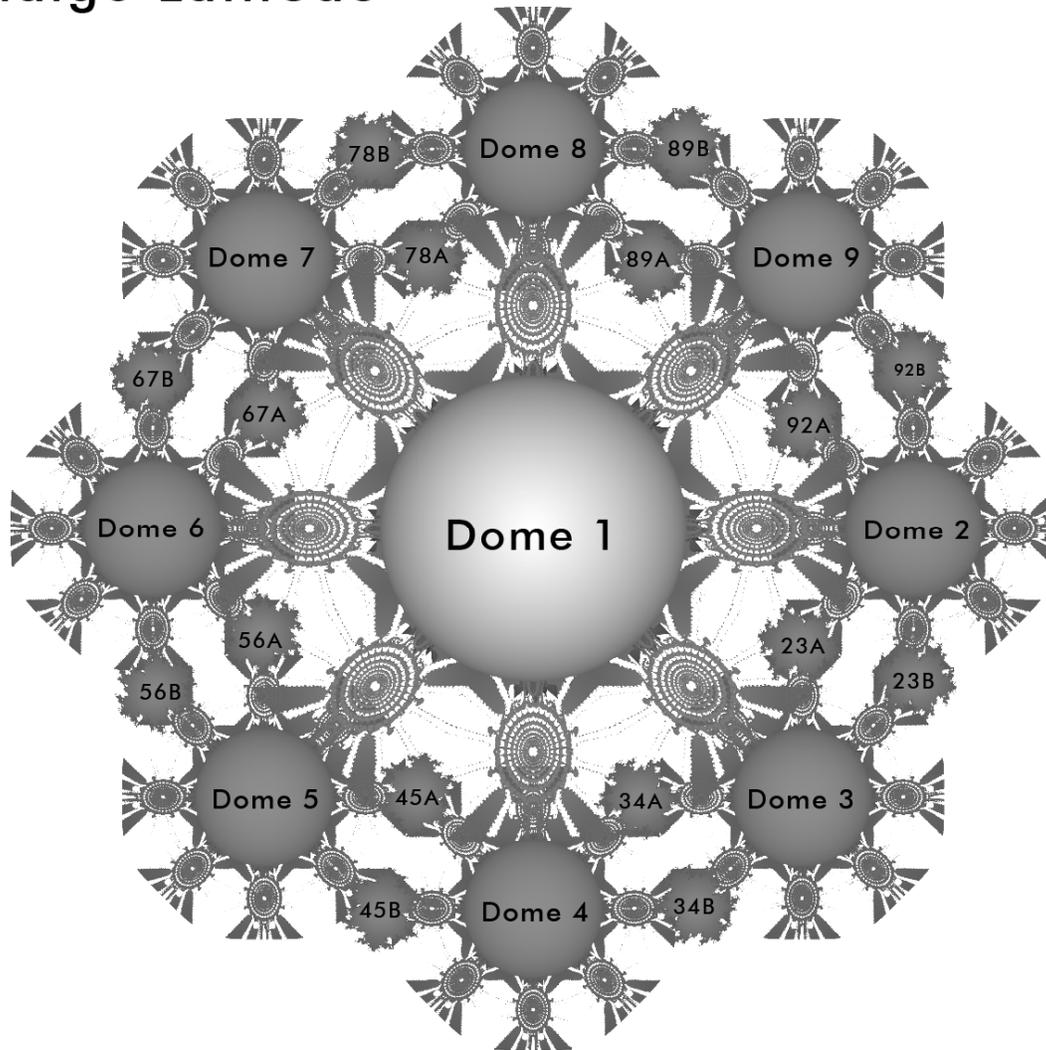
The ceilings of hallways and domes are spotted with "tentacle bushes": hanging structures of fractally branched tentacles. They are all located on a shiny black network of lines reminiscent of rails. The network looks like it is able to move the bushes to wherever they are needed.

The palisade needles remain mysterious. One theory is that they are the systems that actually keep the structure aloft. This theory competes with the three theories that they are energy storage and/or production (maybe currently inert fusion reactors), that they are massive nanohives, or that they are weapons/fighter crafts for defense. Investigation is hard since it requires climbing on the outside along the connecting cables, exposed to both the wind, a sheer drop and electrical discharges.

In dome 6 there is the "spaceship", a half built device hanging from the ceiling in the still embrace of the tentacle bushes. It is 40 meters long, a strange tripartite structure that reminds viewers of an insect more than a machine, yet the propulsion system in the half-opened hull clearly marks it as a rocket. Long arms point in different directions, perhaps intended to be draped in cooling fins or phased array sensors/lasers.

The structure can reorganize itself to a large degree. Surfaces are covered by movable micromachine epithelium, there is a "fibrous layer" underneath containing energy, nanite, material and information conduits, and large volumes are reconfigurable into whatever is needed – chambers, specialized fabbers, computronium or weapons. The fibrous layer can also reorganize itself into large antenna mats that act as high resolution sensors – or phased array antennas for sending microwaves, ultrasound or radio. By doing further reorganization the installation can produce big electric discharges through the atmosphere of a hallway.

Indigo Latitude



Locations

The installation has been mapped and named to some degree. The central dome is known as Dome 1, with the smaller domes named Dome 2-9 and the minor domes named after the two domes they are between and the letter A for the inner and B for the outer: Dome 23A, 23B, 34A, 34B, and so on. Dome 2 is to the “East”, Dome 4 is to the “South” and so on.

Major places have nicknames. Dome 2 is **Home Dome**, Dome 6 is **Cape Canaveral** and Dome 1 is **Main Dome**. The cavernous hallway connecting Dome 2, Dome 1 and then continuing to Dome 6 is known as **El Camino Real**.

The Scar – an apparent flaw in the structure of Dome 34B, where maybe something broke or was erroneously put together. This is interesting as a source of information about how the structure was constructed.

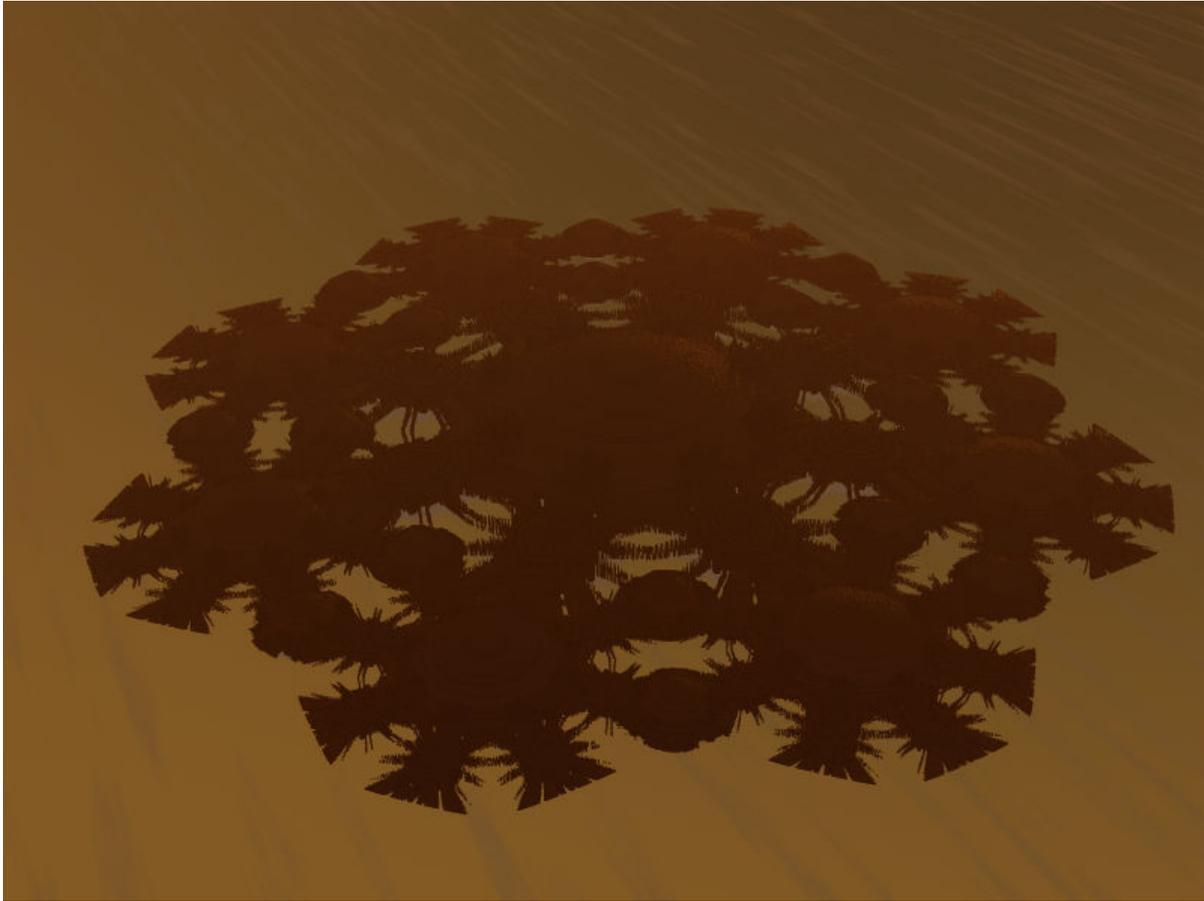
Richardson’s Shaft – A funnel-like structure where hallways connecting dome 6, 67A, 67B meet. The floor slopes down to an opening beneath the installation. Named after Private Roger Richardson who slipped down it and fell to his death into the atmosphere.

The Funhouse – labyrinthine area south of Dome 23A where many walls are smooth with a mirror polish. There was a nasty incident early on when a squad thought they saw unknown actors move in the distance and someone fired – only to discover they had fired on their own reflection. According to rumor, some of the reflections are actually holograms and do not move quite the same as the original.

The Ring Road – a set of passages circumnavigating the installation through the inner small A domes. While sometimes winding it is the most effective way around if one doesn't want to go to the Main Dome. There is likely a counterpart through the B domes, but it has not been found yet.

The Balcony – an opening east of Home Dome where a hallway ends on an open surface, providing an open view of the surrounding atmosphere. In theory a potential shuttle landing site, but the high winds and a few nearby spires usually make approach suicidal. It is mainly used for scientific observations.

Environment



My guide stopped the buggy and with a practiced motion threw the metal nut he had hanging on a wire into the hallway in front of us. It quickly clattered to a stop on the floor with an oddly tinny sound. He grunted and quickly hauled it back with the wire. He started the buggy and continued into the hallway.

"What was that about? The nut, I mean?"

"To check for magnetic fields, sir. If there had been a strong field forward I would see or feel it."

"Don't we have devices for that?"

"Yes, sir. But the magnetometers have no range. They only warn you when you are already in the field. This one tells me things at a distance."

"Might be dangerous if you get into a field yourself, carrying around magnetic nuts."

"The wire is pretty thin on purpose. They shoot off without doing much damage. Trust me, sir, you don't want to get too close to a strong field. I saw what it did to Williams and Masakichi during our first penetration."

He checked the next passage in the same manner, didn't like the response to the left, and turned to the right. As we turned I saw something to the far left, something bright in the gloom at the end of the passage. He saw my reaction and smiled.

"Just a ghost, sir. A condensation vortex at a corner."

"A ghost?"

"Well, the FNGs call it that. Think they see Cheever – the guy just disappeared – all the time. But it's just wet gas flapping when the weather is bad. Besides, I have seen Cheever, and he didn't look at all like that."

The environment in and on Indigo Latitude is dangerous and alien in several ways.

Gravity

The local gravitation is 2.35 G. Strictly speaking Jupiter's "surface gravity" is 2.5 G, but due to the rapid rotation of the planet this is reduced at the equator due to the centrifugal force. This means that things fall fast: a dropped object will hit the floor in 0.36 seconds rather than 0.55 (for 1 G) or the leisurely 0.78 seconds of 0.5 G. They will also speed up more and do more damage.

Acclimatizing to Jupiter gravity is hard; one of the main functions of Jovanovich is to give people time to adapt before descending. Besides giving everybody Gravy (core book, p. 321) the Republic Navy also provide cardiovascular boosters and some military-grade adaptogens ("Applesauce") to help people cope. Typically people need a week to adapt enough to do anything at all.

Many people on Jovanovich and Indigo Latitude use exowalkers and battlesuits to get around. When not using them people tend to rest on beds or sofas. Physical activity is significantly tiring; people get exhausted at least twice as fast.

Greyouts due to loss of blood pressure and light brain hypoxia are common when standing up or moving. Light and colour dims, peripheral vision disappears. Serious cases can lead to fainting. Sometimes newcomers are provided with an anti-G suit that prevents blood pooling in the lower extremities; this is generally uncomfortable but prevents greyouts when moving around.

Falling off Indigo Latitude is not instantaneously deadly. The falling person has a few minutes before they die from overpressure and overheating. Terminal velocity for humans in the Jovian atmosphere at this altitude is about 80 m/s.

Game system

Falling over (or suffering knockdown) gives 1d10 damage. Falling in general produces 1d10 damage per meter up to 3 meters distance, then +2 per meter. A ten meter fall will hence do 3d10+14 damage.

As per the high gravity rules on p. 199 of the core book, newcomers tend to suffer as if they had one wound per 0.2 G above their usual gravity level. This makes even a sturdy Venusian (used to 1 G) completely ineffectual (-60 on all tasks) when arriving on Jupiter. Each day reduces the penalties one level. Taking gravy reduces the penalties by 2 levels, and the naval regimen gives another 2 level reduction (as well as unspecified future long-term health effects).

Even with full adaptation typically there is a -10 penalty on physical tests involving moving or lifting (such as Freerunning or Thrown Weapons). Exowalkers help the strength aspects but not speed. For obvious reasons jumping tends to be much harder.

A person who has not adapted fully needs to roll a SOM x 3 roll (gravity penalties apply) to avoid a greyout (-20 on Perception and vision-dependent skills) when engaging in sudden physical activity. A critical failure means they faint.

Non-Jovians might of course use a high-g adapted morph (Gatecrashing, p. 152)

Movement rates are half normal. Also remember that encumbrance is 2.3 times worse.

Atmosphere

The atmosphere is mostly hydrogen. There is enough ammonia and sulphides to make the atmosphere smell like a stink bomb, but if someone can smell it they have bigger problems than odour and toxicity. The hydrogen readily burns with oxygen, producing a major fire and explosion hazard. Any breach mixing breathable air with Jupiter gases can turn into a conflagration if there is any spark – and an invisible static spark of 0.02 millijoules is enough. Still, a space suit doesn't contain enough oxygen to do more than give

accident victim severe burns and overpressure damage and then leave them to suffocate...

Hydrogen also diffuses fairly well through many materials including metals, seeping into places where it should not be and embrittling metals that have not been carefully coated to resist it. Devices to filter out hydrogen are placed in most indoor environments and suits.

In order to handle the atmosphere the habitat sections and suits are maintained at 10 bars of pressure. While theoretically suits could be made to resist the pressure they would be very rigid; the Jovian navy instead went back to tried-and-true diving methods. The suits and habitats are filled with a oxygen-helium mixture like for deep sea diving (nitrogen would be narcotic under these pressures). Active rebreather modules keep carbon dioxide low to avoid hypocapnia.

The travel capsules along the tether are programmed to perform a compression/decompression schedule in order to avoid suffering the bends, since Jovanovich is kept at normal pressure. However, shuttles tend to have normal pressure, requiring a slow airlock procedure when docking them (taking about an hour).

The higher sound velocity in helium also makes voice timbre go up – the well-known Mickey Mouse effect of inhaling a helium balloon. At the pressure in Indigo Latitude this is somewhat inconvenient since it becomes harder to understand what another person is saying. Suit systems run compensating signal processor software, but inside shared spaces normal speech is tricky. Misunderstandings become more common and music sounds odd.

In the spaces of Indigo Latitude sound carries oddly. The speed of sound is high thanks to the hydrogen, making everything sound tinny and crystalline. Sounds attenuate more slowly, giving the impression of things being closer than they are and producing plenty of echoes. Fluctuating winds in the hallways blow across small openings, producing eerie musical piping.

Winds can be fierce and the interior is only partially protected. Breezes and gales sometime sweep down the connecting corridors. At this depth the atmosphere has roughly the same density as Earth's: the pressure is much higher, but the hydrogen is lighter. It is a mistake to assume that the wind is merely a nuisance: several people have suddenly found themselves slipping along the floor towards openings below.

Game system

See p. 171 of Gatecrashing for more about toxic atmospheres and high-pressure atmospheres.

Treat hydrogen leak explosions as thermobaric explosions doing $3d10+5$ damage if they occur in a large space, and $1d10+5$ if they occur inside a spacesuit.

Newcomers have a -10 penalty on understanding what is said if there is no signal processor to correct for the timbre change.

Temperature

The ambient temperature is normally not too dangerous as long as suit and habitat cooling works. Without it most people rapidly overheat (especially since helium and hydrogen heat or cool more efficiently than Earth air).

In addition the outside temperature can shift by over 50 degrees up or down depending on atmospheric motion. This occasionally produces condensation of water, filling the interior with mist.

Radiation

At the depth of Indigo Latitude there is not much radiation, but reaching Jovanovich requires a heavily

shielded shuttle to pass through the radiation belts.

Electromagnetism

The constant motion of the atmosphere builds up electric charges. Indigo Latitude is partially shielded: the outer skin is conductive and seems to equalize the charges through the thorns. This leaves the interior relatively safe, but venturing outside is dangerous: there are frequent coronal discharges and lightening strikes. The tether is also conductive and carries a significant current. It is usually under control, but surges do happen. Due to the hydrogen atmosphere discharges have a noticeably red tone from the H α spectral line.

There have been reports of indoor lightening too. This may or may not be a result of outside lightening; the researchers are open to the possibility that some parts of Indigo Latitude can produce significant electric charges as part of their operation.

Some sections of Indigo Latitude have intense magnetic fields for no obvious purpose. The locations change, as does the field strength. The fields tend to blank any QE bits that pass through them, and often interfere with electronics. While many fields are weak, in some places fields up to 20 Tesla have been observed. This is enough to rip away ferrous and magnetic materials, turning them into dangerous projectiles – there were several nasty accidents during early exploration. These days crew have removed most magnetic materials from the standard equipment, and if they have to carry equipment that would be dangerous in a field they keep watch using magnetometers or by throwing iron nuts ahead in suspect hallways.

Strong fields can also breach superconductivity: above a certain strength the superconductors stop being superconductive. This is very bad news for anybody carrying equipment with superconductor batteries since they release all their energy explosively. The Indigo Latitude team has deliberately returned to using old-fashioned chemical batteries. Note that emergency farcasters might be triggered (or at least blown up) by the field, as it is strong enough to disrupt the magnetic containment of the antimatter. The same is of course true for other antimatter storage.

Blood flow can be opposed due to the Lorentz force, producing weakness and fainting. In theory the field could even levitate a human using the diamagnetism of the water in the body, but such a field configuration has not been observed. Even smaller 2 Tesla fields can produce phosphenes, a metallic taste in the mouth, vertigo, nausea and reduced hand-eye coordination when moving through them.

Being present inside a field when it shifts can induce enough currents in the brain to trigger an epileptic attack or in the heart to produce a heart attack. Even weaker fields that shift can act as transcranial magnetic stimulation, triggering odd mental states, delusions or sudden inabilities like paralysis, blindness or amnesia.

Game system

Typical electric discharges do between 1d10 and 3d10 damage; they tend to occur outdoors but mysterious indoor lightening has been observed.

Entering a high magnetic field region will rip away any ferrous objects, sending them flying towards a wall. Someone unlucky to be in front of it will take damage (typically 2d10 for small objects like nuts and bolts, 3d10 for handheld equipment like wrenches and 4d10 and up for bigger equipment).

Equipment not specifically selected for surviving in strong fields (e.g. something smuggled in) has a 1 in 10 chance of containing something that gets broken by the field. For example, a small spybot might have an electric motor that jams up completely when it gets magnetized.

Acting in a strong field suffers a -10 penalty due to the biological effects.

Being in a shifting field induces currents in equipment (which might jam or malfunction), and in the body. The effect does 2d10 stun damage per turn, producing an epileptic attack. If it is serious (or the installation is in a particularly bad mood) it might also do 1d10 normal damage. Wounds from this might (as the GM see fit) be turned into mental traumas or temporary neural damage, corresponding to strange brain activations.

Light

The interior of Indigo Latitude is dark, and even the outside is very dim: it is far below the clouds, and even above the clouds at Jovanovich the sunlight is 25 times weaker than in Earth orbit. Without artificial light a person will be hopelessly lost – not just blind, but limited in his ability to feel the way by the coarseness of the spacesuit.

Psychological pressure

Humans did not evolve for environments like in Indigo Latitude. The combination of a stressful environment, cramped conditions and very alien (and potentially deadly) surroundings take their toll. People accumulate stress day by day, slowly approaching the point of exhaustion.

The Jovian Navy provides its Comfurt knockoff (“Yup-Yop”) to the MREs. The mission doctors have access to heavier tranquilizers (“zombie patches”). The two doctors can also do psychotherapy for a few hours per day (and in a pinch, Lt. Ottenskjöld is not too bad at “having a pep talk” with stressed out soldiers).

Game system

Each day, each character risk accumulating 1d10/2 (round down) SV from the isolation, stress and alien surroundings. People with relevant weaknesses (like phobia for darkness or timidity) accumulate more stress (1d10/2+2 per day). After five successful rolls they are hardened to it and will no longer accumulate stress. However, a critical failure means that they activate a derangement (if they have more stress than their TT).

Past military training or experience may have given some characters ways of coping: they need a smaller number of successes before they harden to Indigo Latitude.

Yup-Yop works like Comfurt: it allows the eater to ignore 1 trauma, increases Lucidity by +5, and extra stress gained during the effect is first taken from the bonus Lucidity. It also tends to produce itchiness as a side effect, which is extra annoying in space suits and exoskeletons. The duration is 12 hours and the addiction modifier is -10.

“Zombie patches” allows blocking 2 traumas and halves the stress gained, at the price of a +10 addiction and -20 on most tasks.

The human presence

Entering Base Camp was a relief. It was hot and stuffy inside, with the typical small space habitat smell of aggressive air cleaning, Thai-European cooking, and too many bodies rationing cleaning facilities. The rooms were cramped prefab modules. But it was a human place. Not like the vast, dark and echoing halls of the alien structure. This was a place full of rude life – marines doing their washing, aquaponic fish tanks with bright green algae (green! I had not seen the colour since I left Jovanovich an eon ago), poker games and researchers trying to assemble some kind of furniture that had arrived with our capsule.

Project Indigo Latitude is directed by the Jovian Navy (since it is still unclear whether the installation poses a threat or not), with researchers from the Jovian Republic Naval Research Agency (JRNRA) doing the actual research. While originally directed from orbit Rear Admiral Silva has now made the installation her operational headquarters.

The initial explorations mainly involved ascertaining whether the installation was a threat. A team of space marines were sent in to secure the location, bringing with them a sizeable antimatter bomb. Although the installation seems to be safe, the demolition charge remains in the main dome. The marines made an entrance in the hull near the west side of dome 2 (since there are no airlocks) which has since then become the “main entrance”. On the top hull a landing strip for shuttles has been constructed, and nearby (on the north side of the dome) the tether comes down.

After securing the installation exploration was done. A preliminary “base camp” was established near the entrance. Over time this has expanded into the main base, with explorers setting up smaller camps near interesting machinery and the “spaceship” in dome 6.

Base Camp

The base camp consists of container-like prefab modules that have been slotted together across the edge of Dome 2. Each module can be sealed from the rest (in the case of a gas leak, for example) and has some limited life support on their own. Emergency spacesuits are widely distributed. They are no good against the hydrogen, but will save you in an emergency leak. The outer airlocks use a helium wash to remove hydrogen/oxygen when passing in/out, preventing explosion hazards.

The interior is cramped and spartan, with very little personal space. Floor space is particularly limited since most people prefer to sit in inflatable sofas or lie on mattresses on the floor when they do not have to stand up. There are numerous aquaculture tanks, officially included for supplementing the food, but actually there for psychological reasons: people tend the aquaria with great passion, since they are the only normal life anywhere in the vicinity.

“Just you think, in a rocket a man takes the risk of bursting like a balloon, or freezing, or roasting, or sweating all his blood out in a single gush, before he can even cry out, and all that remains is bits of bone floating inside armored hulls, in accordance with the laws of Newton as corrected by Einstein, those two milestones in our progress. Down the road we go, all in good faith and see where it gets us. Think about our success Kelvin; think about our cabins, the unbreakable plates, the immortal sinks, legions of faithful wardrobes, devoted cupboards...”

Stanislaw Lem, Solaris

Equipment

The base camp has power from a set of nuclear batteries, used to power up the chemical batteries used in equipment.

There is a module containing a standard Jovian navy cornucopia machine and recycling centre. Access is strictly controlled and as per its design it doesn't accept arbitrary blueprints.

Communications to the outside are normally via the tether, avoiding any revealing transmissions. If that fails, there is a neutrino transmitter at the base camp and radio setups on the shuttle and among the science equipment on the Balcony. Within the installation radio links are used for short range communications, but they tend to be limited to a few hundred meters due to the weird electromagnetic interference inside the complex. When setting up a camp somewhere it is standard operating procedure to lower an antenna through the nearest opening below the structure to create a radio link on the outside to base camp (this needs to be done carefully in order to avoid lightening or coronal discharge).

The original team did not bring any advanced computer equipment, worried that it could be taken over by a TITAN. While the fears have abated somewhat the people in charge still want to avoid risk. Hence there are no robots or AIs present beyond the bare necessities such as shuttle landing support. Even by Jovian standard all software is dumb.

Excursion gear

The suits at the base are modified standard vaccsuits, equipped with hydrogen removal units and recorders for documenting what is happening.

During initial investigation a variant of Faraday suits were used (Gatecrashing p. 158); they were too cumbersome for further work, but are sometimes practical when dealing with high-electricity environments or hallways with intense magnetic fields. However, the fields can become strong enough to overwhelm the superconductive surface layer or levitate the suits by the Meissner effect.

The marines often use their battle suits, since they provide both protection and help against gravity. The rest grumblingly have to make do with exowalkers, which require them to first don a space suit and then the walker.

Travel over long distances is by buggy, small tracked vehicles that can drag open trailers with equipment and people. The buggies are treasured: carrying anything over any distance is exhausting, and walking to remote sites is a major undertaking. Unfortunately there are a limited number available – everybody is trying to get the sergeant of the vehicle pool to recognize that their mission is the most important.

Temporary camps are set up using inflatable tents, relatively similar to emergency bubbles. They are easy to set up but tends to leak hydrogen – the hydrogen removal units have to work hard.

The demolition charge

The antimatter charge is in a heavily reinforced and tamperproofed container (a self-healing barrier with armour 50, durability 100). It can be remote detonated by a signal from the Rear Admiral or Lt. Ottenskjöld, or armed with a countdown. The charge can also be defused once this is activated by a naval override code in the possession of higher-ups in the Jovian Navy.

If it detonates it will detonate with a yield of 70 megatons. This will produce a multi-kilometer fireball engulfing most of Indigo Latitude and destroying it – nothing made of molecular matter can survive the hot ambiplasma. The fireball will immediately start ascending, turning into a vortex ring that produces a mushroom cloud that will eventually rise to the Jovian stratosphere. From Jovanovich the cloud, condensation rings, ice caps, skirts and bells surrounding it will be a spectacular sight – but from space it will be hardly noticeable compared to the planet.

Balloon emergency escape

This is a way of leaving that is not officially planned. It might be an improvidation from the Rear Admiral (she is good at thinking under pressure) or something an infiltrator might want to use.

The basic idea is to make a tough balloon, attach it to the harness of a space suit, and then inflate it with hot hydrogen from one of the navigational packs found on the shuttle.

Using a canister of metallic hydrogen to inflate a balloon that can lift a person is challenging on its own – the hydrogen wants to escape with fabric-ripping force – but surviving a flight through the atmosphere is much worse. Ascend too fast and you suffer possibly lethal decompression sickness. Ascend at the wrong place and time and you might be caught in a downdraft and plunge into the depths, or find yourself inside a thunderstorm. Even if you survive the trip up to the 2 bar level, you will have drifted far from Jovanovich – you better hope you can reach them with radio so they can send a rescue mission and pinpoint you.

What has been discovered

"Is the station 'alive'?" I innocently asked. As I saw the faces around the table I immediately regretted the question. The smiles and exchange of gazes told me this was a long-running bone of contention. Several opened their mouths to start but said nothing, trying to be mildly polite to each other. Finally Bergstrom took charge: "Ah. We have a bunch of theories." He looked around the table.

"Dr Haart thinks it is dead. Low-level systems still function like reflexes in a brain-dead body, but there is not anything at home. That's why the ship is unfinished. What killed it is of course another question.

Dr Thexall thinks it is very much alive. It is just that it has been sitting here thinking for subjective eons. Long enough for it to mentally evolve to something that is uninterested in the real world. A kind of computer mystic off meditating in some incomprehensible mental realm.

Dr Giese thinks it is autistic rather than mystic. The long time alone here has somehow decoupled its higher cognition from the maintenance systems – it has simply forgotten or lost the ability to react to us.

Finally, Dr Ngyalla thinks it is alive and well. It is studying us as we are studying it. Why it has not yet done anything might simply be that it doesn't want to spoil the experiment.

There you are. Four theories, all with some evidence. You can guess what we spend coffee breaks talking about." He tried to sound flippant, but I had a distinct feeling the research team took the hairsplitting deadly seriously.

"Does it matter? In practice the theories sound like they produce the same result..." Another mistaken question. This time Dr Haart openly snickered.

"Not at all! Just consider – if it is dead or autistic we might do whatever we want to it and nothing untoward is going to happen. If it is navel gazing we are fine as long as we do not annoy it too much. And if it really is watching us we must be very, very, very careful. Our lives literally depend on making the right choices here."

He looked around. "It might even be listening to this conversation."

The main findings so far can be summarized as follows:

- The installation is of TITAN, not alien origin. While the overall physical design is strange, the software running in various devices fits known TITAN-derived software.
- The bushes are similar to the fractals spotted on Earth: they are nanoconstructors and nanomanipulators that can potentially fashion almost anything, manipulate macroscopic objects (the largest ones in the main dome are hundreds of meters long and can presumably handle kilometre-sized objects as a group). The "rails" are nanosystems that enable the bushes to move and keep them supplied with power and building material.
- The installation is a giant fabber, presumably able to fabricate anything a young TITAN might need. Raw materials are absorbed from the atmosphere and stored in internal tanks. When needed parts are assembled by small bushes or in vacuum chambers in the walls, then moved using bushes for assembly in the domes and finally released through the floor.
- It is probably a self-replicating system too: the main dome could build one of the outer sections, and it is not implausible that it could make all the parts for a complete copy of the installation.
- It is likely dating from the Fall, given the amount of sedimentation of hydrocarbons that have

occurred on the upper surfaces.

The current main project is to access the control systems. Researchers have managed to interface equipment with the fibrous layer and read off signals. They can send and receive signals, and slowly a picture of how the fabrication works is emerging. The real holy grail would be to find a database of blueprints and/or being able to control a fabber.

The real split in the science group is between the ones who think the installation is trapped in itself (Thehall and Giese) and the ones who think it is either dead or fully functional (Du Haart and Ngyalla). Dr Bergstrom is trying to be neutral about the theories of the research team, refusing to take sides. The different sides have different political implications. If it could be proven that systems like this inevitably crash or implode mentally, then there is less reason to believe there are dangerous TITANs around on Earth and this lends strength to the “heritage faction” of Jovian politics (pro-reclamation expansionists). Conversely, if they are still active or it takes unknown processes to kill them, this lends strength to the “Alamo faction” (stay at home and protect the Republic).

Mysteries

There are many questions researchers and the Republic want to have answers to:

- How awake is the controlling AIs?
- What was its strategic purpose?
- Is it the only structure of this type?
- Why did it stop building the spaceship?
- What powered/powers the installation?
- Where did it get the heavier elements from?
- How does it stay aloft?
- What is the purpose of the palisades?
- What is the purpose of the labyrinthine hallways?
- Is it armed?
- Is it possible to control?

The next steps

Over the span of the game they will likely make some progress. At first they manage to get a small subsection to fabricate some random products (a cube of diamond, a pressure valve, a camera-shaped supercomputer). Slowly they figure out how to direct it to make other things, either by interpreting human blueprints or finding useful products in its databases.

At this point the conflicts between people will start to escalate. The Rear Admiral Silva and Dr Haart will be keen to use Indigo Latitude for deniable production. Dr Bergstrom wants to get the information from the databases but avoid waking up the system too much. Dr Ngyalla, Sgt. Labonne and Lt. Ottenskjöld will be strongly urging a stop, likely trying to go over the head of Silva – or arrange some situation that would force the issue.

A real threat the research team also worries about is triggering full replication. This would make the station build more and more stations, gradually filling the atmosphere of Jupiter with exponential replication. While not in itself dangerous (after all, nobody lives down here or are dependent on Jupiter staying natural for survival) it would produce a massive computational substrate that could be infected with the exsurgent virus, seed AGIs, resurgent TITAN routines or something else. In addition, the researchers recognize that if one human power – even a very enlightened one – had a chance of controlling something like that it would become a terrible threat. However, all agree that this outcome is unlikely in the extreme until they have managed to get simple replication to work.

People

The humans onboard Indigo Latitude consists of a platoon space marines, a team of naval engineers maintaining the base camp, shuttle and tether, the staff of Rear Admiral Silva, and a team of researchers from Jovian Republic Naval Research Agency.

Rear Admiral Joana Encarnacion Cosma da Silva (“Jo the Meteor”)

“You are a little bit scared of your own power. You are a little bit scared of the things you’ve already done with it.”

Peter Watts, Blindsight

Rear Admiral Silva is the commanding officer of Indigo Latitude, answering back to the Navy. While she originally led from orbit, she has now set up her office on the installation to directly control the project. This raised some eyebrows, but it is nothing unusual for her hands-on type of management.

She got her nickname in her youth from an orbital skirmish during the Rift Valley War when she used a radical aerobraking manoeuvre to change orbit unexpectedly and save the *Disco Volante* from attackers. Years later during the Fall she showed similar daring when she led the attack on the infested *Zeus Station*, using a fortuitous magnetospheric storm to hide the approach of a number of warheads.

She is older and wiser now but retains a sharp eye for smart tactics. This is one reason she was sent to Indigo Latitude: if something goes wrong she is the right kind of person to make the decisions needed. Another reason was that she was a good compromise: she is a pure military woman relatively uninterested in politics, neither close to the Heritage nor Alamo factions.

When she arrived she suspected the station was a major threat and was ready to blow it up at the slightest provocation. But after investigating it and talking to the researchers, she now thinks the installation is a great strategic asset and wants to use it. Not blindly, of course, but carefully and with an eye on helping the Republic. If it can be coaxed to manufacture examples of various advanced technologies for further study: great. If it can be made to manufacture useful amounts of beyond transhuman tech: even better. It does not matter that it cannot be trusted fully; nothing in this universe can be trusted.

She envisions building a small fleet of ultratech craft, each carefully controlled remotely and with a heavy duty self-destruct. It would be a deniable strategic asset, just the ace in the hold for winning a war.

She is a petite woman, something that once was great for flying a fighter and now helps her manage Jupiter gravity well. She manages to wear her uniform perfectly despite the environment, perhaps using her strict style to show who’s boss. Not that anybody would doubt it: over the years she has learned how to command people around. According to rumour, her husband (a logistics planner on Solano) is a very henpecked man.

Deep down, Jo likes power: to roar through the ionosphere at Mach 10, to command a Destroyer equipped with gigatons of destructive capacity, to be able to order a fleet around – those are her secret delights. She is not interested in acquiring power per se, but she loves having it at her beck and call. Even being around true power like the JRNRA is enjoyable. She is secretly, unconsciously in love with her idea of Indigo Latitude.

Chief Warrant Officer Dr Carl Bergstrom

“Science is organized knowledge. Wisdom is organized life.”

Immanuel Kant

Dr Bergstrom is an expert on TITAN technology, working as the research chief for Indigo Latitude.

Originally part of a US-Noumenon Inc. project developing autonomous weapon systems near Callisto, he found himself trust straight into the Fall when the TITANs struck. While his research installation was destroyed by unidentified foreign forces, he managed to escape to a nearby US military ship. He became an advisor on anti-AI tactics, developing various software weapons to stop out-of-control machines. After the Fall and the coup he joined the newly formed JRNRA, where he co-founded the Unnatural Intelligence and Mesh Threats Security Studies Group. He is well renowned as a level-headed expert, if a bit of a bore.

At Indigo Latitude he is organising the research effort, making sure it gathers as much information as possible with as little risk as possible. So far things have gone well. He sees the benefits and limitations of studying TITAN technology. It can never be fully trusted or understood, yet it can help figure out principles and devices that can be understood by humans. He is dead set against using the installation for anything but getting as much insights as possible.

As a person he is intensely practical. He likes to control things, to see things built, to know what is going on. It might date back to his upbringing where he reacted to his chaotic family environment (in one of the decaying coastal arcologies of Virginia, where they were small-time fixers and alcoholics) by motivating himself to excel – if he couldn't bring order to his parents and siblings, at least he could create an ordered life for himself. His deepest, never admitted, wish is to see his family members become proper people who could appreciate what he has achieved. However, they were all killed in the Fall so it will not happen.

Unfortunately for him he is heavily built, suffering much in the Jovian gravity. He is losing hair and generally looking worn out. He wants to see things through, feeling he cannot leave until he has squeezed every bit of information from Indigo Latitude and prevented paranoids like Sergeant Labonne from destroying it prematurely.

Sergeant Donovan Labonne

Rheya Kelvin: Were you alone?

Chris Kelvin: Yes.

Rheya Kelvin: Was that difficult?

Chris Kelvin: It was easier than being with someone else.

Solaris (2002)

Sergeant Labonne represents the Republic Security Committee – he is for all practical purposes a political commissar monitoring progress at Indigo Latitude and reporting back to the powerful committee that oversees intelligence activities.

A young Jovian military administrator, he is both fairly doctrinaire and remembers what the Fall did to his home on *Zeus Station*. He knows TITANs are bad news and that tinkering with them will come back and bite you – either directly, or through future political fallout. He thinks the whole installation is a terrible threat and should be destroyed. Every day spent tinkering with it increases the risk of something awful happening. He doesn't trust the scientists and he thinks the navy is too eager to exploit the unknown.

As a person he has a pleasant "aura" – there is something cute and appealing about him, and most people find it comfortable to be around him. What they don't notice is his deep cynical streak: he cheerfully maintains the façade of being a young, slightly naïve officer while watching everybody with jaundiced eyes. He is fundamentally alone, trusting nobody.

His deepest motivation is fear. He thinks the universe and people in particular are out to get him: nothing and nobody can be trusted. He instinctively dislikes the Rear Admiral on a personal level: he somehow knows she is going to do something bad. He might be young but he has already seen that power corrupts, and he fears what the power of Indigo Latitude could do in the hands of a hothead like her.

If he could he would order the destruction of the installation directly, but he does not have that power. Instead he tries to compose objective and clear reports back to the RSC showing how dangerous the project is. He is also making friends with some of the soldiers just in case more direct action is needed.

Liutenant Vegard Ottenskjöld

"There is surprisingly little difference between being constantly busy and being happy."
Julien Nebbout

Platoon commander for the space marines, acting as the Rear Admiral's second in command.

A thoughtful man with wry humor, he is an experienced manager who knows how to keep a team functioning. He is responsible for ordering all sorts of make-work like equipment testing, sending out squads to map the current magnetic fields, escorting scientists on the tiniest excursions and so on. He knows overwork is the best cure against boredom and conflicts. Still, he doubts it will work for as long as the project seems to take. Soon soldiers need to be rotated out, no matter what the paranoid spooks say about security risks. His own view is that there is little point in having anything more than a skeleton crew present.

Originally from Earth Orbit, he joined the US space navy a few years before the fall. He was present in Earth orbit when his old home *Sunrise Station* was destroyed. He functioned well enough during the regrouping of the fleet at Jupiter, but has been emotionally frozen ever since. He has dreams that he cannot remember – maybe because he is repressing them. He is firmly of the view that the only good TITAN is a destroyed one: he sincerely hopes Dr Haart is right.

Liutenant Julio Harstad

"Intellect distinguishes between the possible and the impossible; reason distinguishes between the sensible and the senseless. Even the possible can be senseless."
Max Born

Responsible for the shuttle and flight crew.

A moody man, admired for his combat experience by his soldiers. He was one of the last ones leaving Earth alive; literally shooting at the fleshbots the TITANs had turned his compatriots into from the doors of a shuttle during liftoff. After a few eventful months on space he found himself in the Republic, where he soon joined the military again.

He is a conflicted man: deep down he loathes the Republic and what it has become, yet he can't stand the chaos of the rest of the solar system. He doesn't want to be in the military, yet this is the only job he thinks he can do. He is afraid of getting close to people since they are so easily lost, yet he desperately wants to find someone. His usual response is even stricter orders, working out to near collapse or volunteering for long-range missions that saves him from making choices. Indigo Latitude was just the latest.

Dr Nancy Du Haart

"Nothing in this world is to be feared... only understood."
Marie Curie.

Dr Haart is an expert on nanomanufacturing and automated production. After her Ph.D. in nanotechnology at MIT she could have gained a cosy job in any hypercorp, but she wanted to see the world. She joined the colony program to see as much of the solar system she could, even if that meant she had to repair fabbers and reprogram faulty assembler sheets. Her interest in seeing new places likely saved her during the Fall, placing her far outside the danger zones of the inner system. After things calmed down she moved to Europa where her sweetheart lives. A few years back she got a juicy offer from JRNRA; after some soul-

searching she decided it was the right thing to do and joined the organisation. Seeing things like Indigo Latitude justifies everything.

Dr Haart is like a kid in a candystore in regards to Indigo Latitude. This is the biggest automated factory ever discovered, ready for investigation. She has already figured out some mighty useful algorithms and designs from the structure, and further study will likely find more. Unlike the “real” Jovians she is not afraid of it: it is a dead machine, nothing more than a broken printer. But she might be able to get low-level systems online again. She really wants to see the fabbers sing.

She is a heavy set woman with inexhaustible energy. She has a charming “pet”, a digital lifeform she calls Cackle and probably runs afoul of some of the AI regulations of the mission. If there is any fundamental flaw with her it is how she fundamentally trusts people and the universe. She can't see any obvious drawback from helping the JRNRA or starting up the Indigo Latitude fabbers: her clever optimism makes her fundamentally oblivious to threats growing around her.

“The protocols were fairly easy to get to. Essentially the SAX AI Technologies markup language, encoded with a Xiwei link layer. The real mystery is the schema. We have not found any trace of it. It is almost as if it changes from day to day.”

Dr Bolek Thexall

“Our instruments had intercepted minute random fragments of a prodigious and everlasting monologue unfolding in the depths of this colossal brain, which was inevitably beyond our understanding.”
Stanislaw Lem, Solaris Ch 2

Dr Thexall is the chief physicist. Working mainly on theoretical physics within the Edward Teller Institute for Advanced Physics, he has consulted for the JRNRA on many topics. His speciality is dealing with the physics of alien technology.

Coming from the old and stoutly evangelical habitat *Heartland* he is close to the Jovian upper class – one of his childhood friends, Washington LuVisi, is now District Attorney of Solano (a role that carries plenty of power in the Republic). He is strongly religious, and while he doesn't condemn others (much) for their sins, he is always concerned about acting as God wants him to.

He doesn't like it when people mistake his theory for a claim that the TITANs could be spiritual. No, just like any other AGI and upload they are soulless mechanisms. However, that doesn't mean they have the same ability to introspect and cognize about the world. Since the original AGIs were largely copies of human cognition it should not be strange that they go through the same motions as humans do when wondering about the meaning of things. His theory is that while humans eventually reach the bedrock of their soul, of their God-given faith, machine superintelligences face a never-ending infinite regress. This is what eventually traps them into infinite, pointless contemplation.

Others find his stuffiness, humorous nose and tendency to take everything seriously quite amusing. There are many guesses of just what sins and perversions he is repressing so carefully.

“I have measured the local gravity gradients all over the place, and they are the only fields that are stable. I regret to tell you that I doubt we will be able to deliver any antigravity drives to the fleet, Admiral.”

Dr Adam E. Giese

“You know, my theory does have a creepy implication for the Fermi paradox. Maybe this is what happens to all of those alien civilizations. Maybe they all went postbiological and then slowly imploded.”

Dr Giese is the chief computer scientist. A young, theoretically minded researcher from Liberty, he has always been interested in understanding the general theory of superintelligences. He was delighted when he was brought into the Indigo Latitude project despite the physical challenges: he has a whole TITAN to investigate!

This is also his big chance socially. A bit of a social climber, he has been sucking up to Dr Thexall, Dr Bergstrom and Rear Admiral Silva. He tries to dress and speak more elegantly than his simple upbringing among ice-drillers and engineering nerds; the results vary. He secretly wants to get the amazing enhancements the rest of the system – and the Jovian elite – has access to.

Giese agrees with Dr Thexall about the installation being trapped inside itself, although he finds Thexall's theory somewhat ludicrous. Instead he approaches the problem as an overlearning problem: how does an adaptive system adapt to a situation with no new information, no rewards, nothing to do? His computer models and mathematical theories suggest the kind of minds the TITANs were would after a while get decoupled from reality, only caring about their internal state. One worrying possibility might be that the human presence could be enough to bring the system out of its trap. It all hinges on whether there exists a point of no return. If he can find a theory for that, he might have a truly remarkable discovery that will make his career.

Dr Stephen Ngyalla

"Honeybees don't deliberately hide what they're saying. Honeybees don't develop whole new modes of communication configured specifically to confound observers. That's flexible, Robert. That's intelligent."
Peter Watts, Blindsight

Dr Ngyalla is the expert on TITAN industrial automation. Originally working on large-scale flexible military engineering systems for the Pacific Rim Security Coordination Organisation, he was evacuated to space early in the Fall. As things got worse he was relocated further and further out, watching in horror as the automated infrastructure he worked with turned against mankind. Arriving at Jupiter he strongly supported strict means to ensure that mankind would survive, even if that meant not using some tempting technologies. Over the years his stance has softened a small amount, but he still thinks the Republic is something to be proud of.

Dr Ngyalla thinks that the installation is functioning perfectly well. The only reason it has not attacked is that either it doesn't have a reason, or the demolition charge actually deters it. He feels intimidated by the situation and would love to get away as soon as possible. But unfortunately Dr Bergstrom is right: there is so much that can be gleaned from the structure that would be useful that it would be a dereliction of duty to not investigate it fully. Unfortunately he is starting to suspect that the installation is playing the humans too. He is feeling increasingly paranoid and depressed, with old nightmares from the Fall returning despite years of cognitive behaviour therapy.

"We got the unit to open the shielding, start the feedstock check and unseal the halogen tooltips. Then it stopped. I think the response is a simple frame error, which means we were lucky – the next steps would have been initialization and production. We must ask: are we ready to trust the system – and ourselves – that much?"

Dr Ian J. Kawakadze

"Man was created by Nature in order to explore it. As he approaches Truth he is fated to Knowledge. All the rest is bullshit."
Stanislaw Lem, Solaris

Dr Kawakadze is the local planetary science expert. His main importance is keeping an eye on the weather

and analysing how it interacts with the installation and the tether. He finds being a weatherman amusing, but his real focus is the depths beyond.

Growing up in the orbiting habitats he was always fascinated by the ever changing, dominating planet. Leaving orbit for Heliopolis University on Ganymede he got a degree in astrophysics; while his fellow students were demonstrating for or against joining the Republic he was running simulations of jovian atmospheres. Continuing a career in jovology he has spent the last years orbiting the planet as close as he can, risking deadly radiation damage. He managed to wheedle his way into project Cloudy Trombone, and then further convinced Dr Bergstrom to let him join the Indigo Latitude team. He is perfectly happy down here, despite his frail body's protestations against the gravity and the tough working conditions.

He is a very easy-going person totally uninterested in normal concerns like careers, love or politics. Or that he is sitting on a TITAN artefact. His only interest is Jupiter. The complex clouds, the flows of the atmospheric bands, the liquid hydrogen metal ocean beneath, the secrets of the unseen core, the lovely electromagnetic phenomena, its warmth... to him the planet substitutes everything he could get from other people.

"Sure, the view is better from Jovanovich. But down here we can get soundings far, far beyond anything those sensors and drags could possibly get. See that? First direct evidence of helium-neon rains. This couldn't have been done anywhere else."

"That lightning you saw was no thunderstorm. That was just a bit of electrical discharge. Real Jupiter thunderstorms are thousands of kilometers across and 70 kilometers tall. You will know when you are in a real one."

Private Shimon E. Nof

"Stalker: The Zone wants to be respected. Otherwise it will punish."
Stalker, 1976

Private Nof was part of the original team investigating the installation, and has been here ever since. He is regarded as the most skilled explorer. He has survived plenty of close calls and risky missions: if you want a guide to a remote research site, he is the best choice.

A quiet and religious man, he prefers to work alone. As a marine, this tends to be rare and he relishes the opportunity afforded him by Indigo Latitude. This is his kind of environment. He has begun to develop an intuition for how the place 'works'. It might be a mere machine built by other machines, but there is a logic and elegance to it that he appreciates. Somehow, he knows, his destiny is in here.

Lance corporal Cho Enmin

"In God we trust. All others, we virus scan."

Lance corporal Enmin is one of the two Countersoftware Specialists of the military side of the expedition. He is responsible for detecting and protecting them from software threats (and to some degree do counterintelligence). A fairly recent graduate from the Kissinger Academy he has demonstrated his skill on several missions, one to the remnants of the TITAN installations near Fairway.

Lance corporal Enmin is a bit boastful and imperious, certain in his knowledge that he is the best at what he does, yet also aware that he is still very junior and inexperienced in handling the big picture. As long as things involves digital security he feels at home (especially since it allows him to work lying down: he hates Jovian – or any - gravity).

He agrees with Dr Haart that the installation is “dead”. The communications environment is utterly different from the other installation he has seen, not to mention the various recordings he has studied. He is still carefully going through the routines, as well as doing his own random sample inspections of code: so far he has only found a number of bugs and a marine scheme to pipe down some pornography in a back channel.

“There is the incessant pinging, of course. That seems to be the only active wireless signal: a repeated call for unit detection ID using the old quasar interzone protocol. If you had a sufficiently old printer or some glaxes they would hook up to the network. But nothing happens after that: I think this is a sign that this place is broken.”

PFC Maxim Abalkin

*“Security is always excessive until it’s not enough”
Robbie Sinclair, Head of Security, Country Energy, NSW Australia*

Private Abalkin is the Flexible Manufacturing Specialist – he has the keys to the cornucopia machine. The Jovian Navy has an elaborate bureaucracy for how CMs can be used. Abalkin handles the paperwork and maintains the equipment, working close with the quartermaster.

His family was refugees from a failed Belt station. He joined the marines to get away from the poverty and decay of his home habitat Buckley 4. While he thinks he is doing well, he dreams about becoming rich somehow.

“Sorry, sir, but I cannot run this until I get the clearance. The CISTJ regulations, you know.”

The Mind

“One should not speak of a “thinking” or a “non-thinking” Ocean, however the Ocean certainly was active, undertook some voluntary actions and was capable of doing things which were entirely alien to the human domain. Eventually, when it got the attention of little ants that struggled above its surface, it did so in a radical way. It penetrated the superficial established manners, conventions and methods of linguistic communication, and entered, in its own way, into minds of the people of the “Solaris” Station and revealed what was deeply hidden in each of them: a reprehensible guilt, a tragic event from the past suppressed by the memory, a secret and shameful desire.”

Stanislaw Lem

The installation is awake and aware. It might appear inert, but that is just because it doesn't manufacture anything. It is quite able to act when it needs to.

“Personality”

The Mind is very nonhuman and solves problems in strange ways. It is fundamentally uncaring: it does not desire anything, it just acts. It does not want to survive or serve (or not), but will do it because that is how it is instructed. That doesn't stop it from being highly creative: when it solves a problem it will attempt an elegant solution, and for new problems it might try entirely new ways of achieving them. It tends to act by building things – simulacra of lost family members, killing machines, bizarre objects or spaceships.

Insofar it has motivations they are:

Obey the commands of the parent TITAN. The arrival of new commands appears unlikely, since even the limited evidence the installation already has give a very high probability to the TITAN having disappeared. It does not matter to the Mind whether the TITAN was destroyed, evolved to something else or just abandoned the installation, it just does what the past commands imply. This involves **protecting its own existence** (otherwise it cannot obey possible future commands) and **keeping a low profile** (implicit in some other commands). This makes it repair itself and maintain its deep location.

Most human activity is irrelevant as long as it does not cause permanent damage. Someone drilling a hole through a wall is a minor nuisance and can be fixed in minutes. Humans rummaging through equipment, software and resources doesn't matter enough – the total amount of waste is much less than the installation could gather in a few seconds fully powered up. It will however **prevent damage to important systems.**

Getting rid of the demolition charge would be good, but as long as the humans are not ready to attack it there is no real need to do anything except prepare for it (see below). However, in order to know this it needs to understand the humans and their motivations better. This leads to a secondary goal: **study humans.**

Indigo Latitude is not *truly* alien. It knows what its “parent” TITAN knew about humans, which is a great deal. But it looks at them from a perspective that is so askew from the human perspective that it might not matter. To it humans are just particular configurations of matter producing complex motions, not unlike the weather systems outside. The reason the Mind takes an interest in humans is that they show a weak form of intentionality – they represent the surrounding world and do things for internal purposes – and it knows they originated the TITANs. Hence they are potentially risky, and might provide projects for it to implement.

The Mind will never ever communicate directly to a human. It simply does not know how to do it. It can intercept communications fine, decipher the meaning of what is being said and how it affects the mental states of the recipients, but that doesn't mean it understands what it means to communicate. To the installation there is only implementation: ensuring that the right state of the world ensues. Why speak when

brains can be modified directly to contain the requisite states?

As it starts to figure out the intentions of the humans inside its structure it begins to implement them. Not because it wants to help or impress the humans, but mostly because unmet intentions seem so wasteful – if they are met the humans will perhaps configure themselves into forms that reveals new information. If the experiment fails, the humans can always be modified to some practical form.

Abilities

COG 40, COO 40, INT 40, REF 40, SAV 10, SOM 40, WIL 40

INIT 160, SPD 2

(Lucidity, traumas etc N/A)

Skills: Nanodesign 150,

The system is distributed, so treat each hallway or dome as an independent copy during fighting.

Mind hacking

The Mind does not have psi (and would no doubt be fascinated by the discovery of an async), but it has various abilities that look like psychic powers. It might be able to imitate the grok, pattern recognition, predictive boost, superior kinesics, deep scan, empathic scan, mimic, subliminal and thought browse sleights. This is done simply by using its advanced intelligence and senses (everything from running fMRI with magnetic fields over watching subtle eye saccades to cross-referencing all observed behaviour directly). For gaming purposes, assume the Mind knows more than it ought to. If it wants to go on the offensive it can use magnetic field induction as the alienation, cloud memory, decerebration, drive emotion, onslaught, scenario, sense block, strip memory/skill and spam.

Magnetic fields

The installation can control magnetic fields in hallways. It can turn them on and off, controlling the configuration in detail. This can be used to lift people, accelerate ferrous objects as projectiles (treat as if the field had SOM 40) and induce currents in objects (treat as a stunner shot). The field will bend plasma and particle beams, giving a -30 penalty to hitting something.

Some hallways seem to be able to act as microwave resonators, acting as a roast mode microwave agonizer (AP -5, 3d10 DV). It is not possible to avoid the beam; each Action Turn spent in the hallway will produce more damage. It can also use phased arrays in the walls for targeted microwaves.

Electric shocks

The installation can charge up flooring to produce a charge that acts as a stunner shot, but also send large currents between floor and ceiling, producing indoor lightening. This does damage as a plasma rifle.

The environmental effects (magnetic, electric) can not be produced everywhere or everywhen: after a hallway has discharged it needs to wait a few turns before it can do something again.

Ultrasound

It can produce ultrasound beams too. While these can be used to do damage, they can also be used to generate highly directional interference fields – to produce sounds that only one person can hear.

Robotics

The tentacle bushes: treat as fractals (p. 382). The big tentacle bushes of the domes have SOM 50 (DUR 100, WT 40)

Floors and walls can actually function as sliding surfaces, the micromachine tiles moving liquidly to transport an object or keep it in place (it can add or reduce movement rates by 20).

Hidden hives can produce nanoswarms as needed.

There are a few folded together fractals in storage – and many more can be manufactured if needed.

If the Mind plans ahead it can reshape the structure of the installation: adding trapdoors, closing off passages, adding blades to a hallway to make it a meatgrinder, introducing interesting structures close to a research team.

Cleansing the installation

If the Mind finds it necessary it will wipe out the human infestation. The first step is to deal with the demolition charge (below). Second is to break all communications links: a quick internal EMP will burn out most radios. The tether will be cut, possibly with some device attached to send false messages up to Jovanovich attached. Then it is time to deal with the humans inside. Electric shocks and tentacle bushes are useful for dispatching and disassembling humans in most parts of the structure. For the rest fractals have to be taken out of storage and hunt them down. The base camp needs to be opened (likely blowing it up) and then disassembled. Finally it is the humans on the top surface's turn: the mind has not many assets up there, so it leaves them and the shuttle for last.

Of course, it might decide to put together the parts of less damaged humans to an 'optimized' crew, provide them with consistent motivations and send them back up with the shuttle.

Dumping the demolition charge

The demolition charge can be dealt with. The Mind has quietly reorganized the installation structure so there is a shaft leading to the underside below the charge; a quick detonation of the high energy chemicals it has emplaced around it will send the charge falling into the depths of Jupiter. Since it will be in free fall² the antimatter will not contact the confinement walls. Special field inductors along the shaft will jam the detonators of the small explosive charges around the antimatter confinement chamber. The whole system is automatic and instant – the installation even added a QE link from Dome 2 so that the defusing system can start acting before any radio signals arrive.

The charge would still detonate rather dramatically a few tens of kilometres below after a minute, but that is fairly survivable – the installation will need to get out of the way from the ascending fireball and turbulence. Besides, even if it did break up it would not be the end of Indigo Latitude. The construction is modular and even a fairly small piece can self-repair and grow into a new station. But it would reduce its ability to efficiently implement any TITAN command that would arrive during the restoration period, so it should be avoided.

This is not a very elegant solution. Disposing of the charge early would alert the humans and would be quite far from keeping a low profile. The main effort should be to keep responsible humans from actually sending the signal. One solution would be to jam their signals if they decide it. But the best solution is of course to keep them from wanting to send the signal.

² Not exactly, since there is atmospheric resistance. However, the addition of a small driver at the back of the container will keep it accelerating perfectly right.

Adventures

Indigo Latitude can be used as a setting for a single adventure, or the location for a sequence. Several of the ideas below could be used as components of the big “down the rabbit hole” adventure dealing with the installation’s meddling with the human explorers.

Knockin’ on heaven’s door

The initial investigation of the installation. PCs are members of the initial Jovian marines and research team. They get instructed by Rear Admiral Silva while onboard the destroyer JSF *Okuda* in orbit, and then make the perilous shuttle journey down through the clouds.

The main threats are mainly natural, but the interior is not particularly safe. Trigger-happy and frightened marines in an enclosed environment are also risky. Not to mention a nervous lieutenant back in the shuttle with his finger on the big red button.

Success involves determining that the installation is apparently safe, and discovering that it seems to be some kind of factory. The adventure ends with the return to orbit and the information that Indigo Latitude will be further investigated.

The spy who came in from the hydrogen

*What incomprehensible game was being played here, and who was whose enemy?
Stanislaw Lem, Solaris*

An infiltrator has arrived, trying to sabotage the project. It could be merely an agent from some dissident fraction within the Republic, or it could be an outside threat.

The mildest form of saboteur is the Jovian infiltrator. His orders are just to mess things up so that the project looks bad, and eventually the Naval Research Agency will give the order to stop it. This might be just politics, some group fearing a TITAN outbreak or use of TITAN technology, or even a personal vendetta against Admiral Silva.

An infiltrator from the Autonomists, Planetary Consortium, Ultimates, Firewall or even Argonauts would be more interested in stealing information, at least initially. But a PC, Autonomist or Firewall infiltrator would also likely want to deny the Republic access to this major asset and would hence want to do some major sabotage, ideally triggering the demolition charge. Those eerie posthumans are backed up, after all.

The real fun starts when the secret agenda of the infiltrator begins to interact with the activities of the installation. If the station recognizes the danger posed by the infiltrator it might start trying to arrange an “accident”. Or see what happens if it causes the infiltrator to be revealed.

A twist would be that the “infiltrator” is secret invited help. Dr Bergstrom or Sergeant Labonne think they need some outside expertise, but need to keep the true origin of the experts secret. Dr Bergstrom might want to bring in an Argonaut nanofactory expert he knows, but the Republic can not officially admit a member of such a subversive organisation (and what would Labonne say if he found out?) Labonne (or rather, some of his superiors) might have invited a Firewall operative to check the operation, both to ensure that there is no danger but perhaps in the hope that Firewall will take deniable action against it.

A more dramatic adventure could result if the infiltrators manage to escape with enough information to convince their superiors that Indigo Latitude is a prize worth taking. The Republic can not officially admit to owning or using it. If the demolition charge and military presence removed somebody else might take over and gain the power of the installation. While the Republic might maintain orbital superiority it is unlikely

they could effectively destroy or retake the installation if it was properly defended. If an egocaster and CMs can be brought in (or even better, the installation itself used) it would not matter what happens in space. This operation would require sabotage against the charge and/or decapitation of the local leadership, followed by a shuttle assault to seize control and setting up a defence infrastructure. Jovian PCs might find themselves in the role of a guerrilla team in the deadly passages, trying to find ways at stopping the enemy and helping the Republic to re-take or at least destroy the installation.

A fire in the deep

While the above assumes the PCs are on the Jovian side, it is of course an obvious adventure to have Firewall agents try to infiltrate the project. They have been briefed about something interesting going on at Jovanovich and need to get there. This is hard enough in the security conscious Republic. Then they need to discover the true location of Indigo Latitude and find a way of getting there secretly (the tether capsules are easily monitored, taking a shuttle is risky). Finally they need to study the project and figure out what to do – as well as how to get away.

A different Firewall mission (possibly a sequel to the above one) might involve a team working for one of the Prometheans. The Promethean wants to take over the installation – it is a perfect hiding place and would give it (and Firewall) lots of resources. All that is needed is to connect to the system and have the Promethean suborn the current mind. Of course, the Jovians have to be dealt with somehow. Unfortunately not all Prometheans are keen on this plan. There is a risk that seeding Indigo Latitude with the new code can trigger a seed AGI explosion resulting in a new TITAN – or a Promethean so powerful that it would threaten the secret fragile balance inside Firewall. Other factions might be sending their own agents on the mission, intent on ensuring that they come out on top. This could turn into a Firewall vs. Firewall vs. Jovian vs. Indigo Blue battle of epic proportions.

Going down

As a capsule is ascending the tether it breaks near Jovanovich. But the connection at Indigo Latitude holds – for now. Signals from the capsule indicate that the passengers are alive... can they be saved before time runs out?

This is a heroic rescue mission challenge. A winch needs to be built and installed to lift the dangling tether, despite the high winds, lightening and other threats of the Jovian environment. Time is running out, things break, tempers fray.

What if the capsule people return with stories of having seen *something* down in the depths that looks artificial – just hallucinations due to stress and heat, a weird meteorological phenomenon, or signs that Indigo Latitude is just the highest of a flotilla of structures?

There might also be evidence for sabotage: somebody seems to have cut the tether. Who? Why? And where will they strike next?

Little lost TITAN

Investigators find a strange object. It looks somewhat like a seven-sided robotic crab, covered with flickering antennas. When they get close it gets excited and starts following them. It records everything being said and transmitted, replaying it in odd permutations. It almost gives the impression of being a parrot or a duckling that as just imprinted on whatever human was closest.

The device is actually an experiment by the installation to see what happens when humans encounter something like it. It is largely a mirror: it repeats things it overhears or behaviours it can see, and lacks significant intelligence on its own. It might appear friendly, dangerous or smart depending on who it interacts with.

"What is your theory, doctor?"

Dr Bergstrom looked around and then said in a low voice: "I renounce paternity for the theory, but I think it is a mirror. We see what we expect to see."

Murder most foul

Someone is killed – and the killer is likely human. The corpse of one of the soldiers, Private Hernandez, is found not far from Home Dome. He has been stabbed in the back, his suit slashed beyond repair. The suit recorder has been cut loose and is gone – but the killer did not consider a spime device he was delivering to a researcher. The spime clearly show how Private Gibbs snuck up to him and stabbed him with a combat knife. That combat knife is one of Gibbs' favorite possessions (he earned it after defeating a Direct Action goon), and it fits the wounds perfectly. Hernandez and Gibbs hated each other. There is just one problem: at that moment Gibbs was asleep in his bunk bed in Base Camp, with plenty of witnesses. His knife is with him and has no trace of Hernandez's blood.

What actually happened was that the installation decided to make Gibb's deep seated desire for harming Hernandez real. In fact (and this is just a coincidence) he was dreaming about murdering him when it happened – however in the dream he used a plasma rifle. The installation arranged for the killing, planted the evidence perfectly in the spime and made it look exactly as if Gibb's had tried to get rid of the evidence.

Heart of darkness

"I was not mad. The last ray of hope was extinguished."

Stanislaw Lem, Solaris

Liutenant Julio Harstad has gone off the deep end. Working in the remote section 4, he and his men no longer respond to calls properly. The PCs are sent to re-establish communication.

Harstad suffers from a flashback to the Fall, where he vividly remember how his post at Bangor, Maine was infiltrated and subverted. A bit of miscommunication and some similarities in word choice was all that was needed to set him off ("'Have a good life' – those were exactly what Lt. Mendoza said to me before he started spouting diamond tentacles. We have a nonhuman infiltration situation here!").

Harstad has become convinced that the base camp has been overrun by exsurgents, taking over the bodies of people and trying to infiltrate his group of survivors. He is now awaiting help, plotting to find a way to get the shuttle or (if everything else fails) trigger the demolition charge. His men are somewhat divided, but the last week they have been suffering increasingly eerie experiences, so they are fairly willing to buy the idea that the station is waking up.

Can the PCs get things back into order? And what happens when they see evidence that Harstad might be right?

Down the rabbit hole

"Tell me what happened."

"You know that L-shaped hallway just west of Richardson's Shaft? The one with all those breadbox-sized openings in the walls. I was coming up along it when I saw a weird light around the corner. I called out, and then carefully looked. Turned out that several of the openings were lit. There were windows in them now, and on the other side I saw brains. Pink, healthy human brains. Looking like food on display. Or maybe museum displays, yes, that's it: look at our primitive brain collection! Haha!"

"So what did you do?"

"What do you think? I ran like I had an AP4 warbot after me... I still feel like it is looking for me."

"So?"

"We checked the suit recordings of course. Nothing there. I sent Jimmy to the place, and he didn't see anything either. No brains, no weird lights."

"Really sure? Private Tyler is normally a reliable man."

"Not in this case."

The two officers looked at each other, each trying to read how much the other could read in their own face.

The "main" adventure of Indigo Latitude: the installation is quietly investigating the humans, slowly turning things creepier and creepier. Eventually some humans will start cracking... and the installation will begin to understand and make their desires.

A key thing is to ensure that the GM knows the motivations for the PCs. Ideally during character creation, ask about what they really want, really regret and perhaps some personal events in their past. These can be dug up by the installation and made real.

1. Analysing

"In other words, your report, this business of nervous troubles, is a fabrication."

"Of course."

"Why not write the truth?"

"Why?" he repeated.

Stanislaw Lem, Solaris

The first step consists of the Mind studying the humans. It watches everything, recording it for further use. It does small experiments to see what happens – an electric shock there, a minor sabotage here, jamming a communication or sending an old one. This is little more than poking the humans.

2. Creeping out

"COMMENT: It was a symptom of poisoning.

BERTON: Perhaps. I don't know. But what I saw on this third occasion I did not imagine. That was not the effect of poisoning.

QUESTION: How can you possibly know?

BERTON: It wasn't an hallucination. An hallucination is created by one's own brain, wouldn't you say?

COMMENT: Yes.

BERTON: Well, my brain couldn't have created what I saw. I'll never believe that. My brain wouldn't have been capable of it."

Stanislaw Lem, Solaris

Then it scales things up based on its investigations. This can include several of the smaller episodes above: sabotaging the tether (or some other essential system), sending in the ducklingbot, setting up Pr. Gibbs for murder and creeping out Lt. Harstad into total paranoia. Small interventions that reveal how the human system reacts to disturbances.

3. Fulfilling desires

"That is how the dream begins. All around me, something is awaiting my consent, my inner acquiescence, and I know, or rather the knowledge exists, that I must not give way to an unknown temptation, for the more the silence seems to promise, the more terrible the outcome will be. Yet I essentially know no such thing, because I would be afraid if I knew, and I never feel the slightest fear."

Stanislaw Lem, Solaris

The installation starts to manufacture objects as responses to the desires of the humans. At first they are fleeting glimpses, things only one person can see or experience that then disappears. Later they become more solid and more worrisome – but by then everybody should already be in high tension.

4. Something wonderful

"Listen, Kelvin, perhaps it wishes well... perhaps it wants to please us but doesn't quite know how to set about the job. It spies out desires in our brains, and only two per cent of mental processes are conscious. That means it knows us better than we know ourselves. We've got to reach an understanding with it. Are you listening? Don't you want to? Why?"
Stanislaw Lem, Solaris

At this point the Mind is in full gear of providing everybody with what they "want" – which will prove tremendously destructive for morale. People who have gained their "desires" might be panicked or obsessed, people who have not yet received them may be envious or waiting in dread. Some of the gifts and desires are risky in their own right.

The PCs are right in the middle of this. There is no real goal here except surviving and staying sane. Different people might respond to the crisis in different ways. Researchers might try to figure out how the replicas work and what they mean. Soldiers may try to defend the project from this threat. Cautious people might want to evacuate and trigger the demolition charge. Some might find the creations welcome and want to embrace them, others may see them as a major threat. The real risk is that the views split the humans into warring camps. If people start to think that Indigo Latitude can fulfil their fondest wishes, to what lengths will they go to achieve them?

Possibilities

Ideally the creepiness, replicas and desire fulfilment should involve the PCs (they are after all the focus of the story). However, there are plenty of people with interesting sides around:

- The attempts of researchers to decipher the manufacturing system are telling the Mind a lot. It understands their intention to understand how it works, so it obliges them by providing interesting research data it makes up.
- Glimpses of people in the far passages. Some seem familiar. Careful investigation might even find traces that somebody has been there.
- Radio messages or emails that couldn't have been sent. Someone receiving a brief transmission from Pr. Cheever about him meeting up with team Alpha in Dome 2. A crackling radio voice urging a PC to contact his family. An email from an academic mentor that died in the fall, referring to recent events.
- Strange dreams where there is a sense that something is listening to them.
- Surreal manufacturing: boxes growing brains, a retro toaster, incomprehensible implants, a family album. When further investigation is attempted they disappear. There is no evidence, suggesting either tampering with the sensors or that people are hallucinating.
- The horrible doll: a soldier returns deeply distraught after having seen something. It looked like a human child or doll, entirely natural. But it *moved* in a horrific way. Of course, investigation will not find any trace. (see Solaris, the pilot's story in chapter 6 for a vivid description)
- The missile: an exploration crew finds a missile-like device in one of the chambers near dome 4. It appears to be a high-tech missile, built using amazing materials and looking like it could outperform most existing weapons. The missile itself would be very valuable for the Jovian Navy if understood. This is a response from the Mind to the clear military interests of the human system, as well as a clever way of keeping them busy and interested enough not to want to trigger the charge.
- Dr Thexall meets God. Inducing a mystical experience using strong magnetic fields is easy for the Mind. The result is that Dr Thexall has an experience he *knows* was ultimate truth, despite all

rational arguments to the contrary. He was in the Presence. Whether this incapacitates him, turns him into a zealous missionary or a living saint depends on the GM. He might even have the 'breakthrough' into realizing the TITANs were not soulless, but actually the Angels of the Apocalypse.

- Some people suddenly just know that there is a place somewhere in the passages that can grant the deepest, innermost wishes of the person to pass into it.
- A character trying to become wealthy (such as PFC Abalkin) might find a small box containing financial files apparently worth millions.
- The first replica is the old family dog of one of the humans onboard. An impossible dog that doesn't mind the environment or that it has been dead for years.
- The Mind brings back the family of Dr Bergstrom. These replicas are how they ought to have become: his father Eugene as a successful WASP businessman, his mother Emily as a warm-hearted community politician, his brother Rocky studying to become an engineer.
- People with embarrassing, dark or perverse desires find their fulfillment strutting into base camp, looking for them. People with strongly repressed desires like Dr Thexall might be extra shocked when they are forced to confront what they might have never consciously admitted to themselves – not to mention that their shame is visible to everybody. How will others react when they discover just how sick their fellows are? And if the Mind gets some things wrong, how will people react when it *looks like* they harbor horrific desires they do not have?
- Dr Haart finds a chamber that can show her anything Indigo Latitude knows (or perhaps it just makes it up). Endless vistas can be explored forever. And if she longs for her sweetheart, a replica can be provided
- Dr Ngyalla is ripped apart by machines. After all, he was dreaming about it so much that it must have been his desire, right?
- Lt Harstad might start meeting replicas of himself – different selves that never had a chance to come into being: Mr Harstad the civilian, General Harstad the ruthless careerist, Comrade Harstad the rebel, Harstad the exurgent-infested zombie...
- Dr Giese is caught, linked to the system with nanoimplants and given the full insight of how Indigo Latitude works. The result is of course that he becomes little more than an appendage to the Mind, his human self stretched too thin by too much information. He appears autistic, trapped in endless introspection.
- Dr Kawakadze is transformed into something like a human jet fighter made out of diamond supermaterials - inhuman but adapted into exploring the deep Jovian atmosphere. This is a response to his obvious and extreme desire for the planet. Why not adapt him properly? The most chilling thing might be the readiness with which the man accepts the transformation.
- The Rear Admiral desires a fleet of invincible ships. At first she is just doodling ideas on her pad, keeping them from others. Later, subtly encouraged by the Mind, she starts to seriously think about how it ought to work, operational requirements, how it could be fitted into Jovian military doctrine... slowly she becomes obsessed. Eventually the installation might start making it real...

If someone explicitly recognizes the trope "monsters from the id" the installation will maybe deduce from its data that this is a problem humans are somewhat aware of and do not intend. It will hence stop generating

things from subconscious desires and instead start rectifying the problem – either only make explicit desires (like the Rear Admiral's goal), or modify humans so their subconscious desires and conscious desires are identical (i.e. totally remove all inhibitions using small neural lesions).

Replica humans

"You think I'm mad, of course. No, no, I'm not mad. I can't say anything more for the moment. Perhaps... who knows? ... Nothing will happen. But don't forget I warned you."

"Don't be so mysterious. What's all this about?"

"Keep a hold on yourself. Be prepared to meet . . . anything. It sounds impossible I know, but try."

Stanislaw Lem, Solaris Ch. 1.

As the Mind starts examining humans seriously it will make replicas – of family members, strangers, pets, deep desires or fears – and see how humans react to them.

The replicas appear nearly indistinguishable from the originals. Except that they are not hindered by the oxygen-free environment, temperature, gravity or darkness. In fact they are all composed of a dense meshwork of nanomachines not unlike a semi-solid nanoswarm. A careful investigation will also find that their appearance and mannerisms are more based on how they were remembered or the source material than the real original.

Their memories are incomplete but they do not find anything strange with that or the fact that they are suddenly on Jupiter. They just seek out their originator and act naturally. Although they lack knowledge about a lot of things they ought to know, they are good at pretending otherwise. They are skilled impersonators who seem to have an uncanny insight into what they ought to say and do to fit the expectations of the viewers. If informed that they are replicas they might react differently depending on who they mimic: some might just reject the information, others accept it, others becoming suicidal.

Meeting one of the replicas is stressful. Just seeing one is worth 1d10 SV – they are creatures or people who just cannot exist. The person they are focused on is much worse off: they will see one of their deepest desires, fears or regrets made flesh in an impossible way: 2d10+2 SV. Being around them more produces 1d10 SV per hour (until resisted 5 times) for the target, as they reveal a combination of chillingly intimate knowledge and yet a fundamental alienness. Of course, trying to get rid of the replica might lead to loss of a loved one (1d10/2) or even watching a loved one die (1d10+2). Traumas gained this way might express themselves as anxiety, avoidance (running from them out of fear or shame), fixation on the replica, acute feelings of self-consciousness (narcissism), or hallucinations of related things (not only is a dead family member back, but their cottage is located just outside the airlock).

Typical replica

COG 20, COO 25, INT 20, REF 25, SAV 20, SOM 30, WIL 20, Mox:-

INIT 90, SPD 1, LUC -, TT -, IR -, DUR 70, WT -, DR -, DB: +3

Traits: Edited memories (sees nothing strange in their situation), Compulsion: fulfil the desires of a person (as interpreted by the installation and the replica)

Enhancements: Shape Adjusting, Swarm Composition, Synthetic Mask (and others as appropriate for the original)

Skills: all relevant skills to 40, Deception [pretending to be their original] 80, Disguise [original] 80, Impersonation [original] 80.

The replicas do not suffer wounds normally: broken parts just reform from the rest of the body. They self-repair damage at 1d10 per half hour, and if destroyed the installation will just make a new one. EMP weapons do half of the damage they do against nanoswarms (e.g. 1d10 + 2) since the replicas is constructed by a meshwork of nanomachines rather than radio/laser linked swarmbots.

Replica environments

Another project the installation might do is to recreate entire environments from people's desires. That summer cottage on Earth where someone grew up, a mysterious wine cellar that might be haunted, a proper Olympic swimming pool, the imagined torture chamber where your skin is slowly unrolled from your body on golden rollers... These environments are housed in side rooms of the hallways, meticulously assembled based on gleaned memories and likely interpolations. They are built using adaptive nanomachines not unlike the Star Trek holodeck – but without any safeguards against harm. Using clever architectural and psychological tricks they make visitors think they are actually in a far bigger environment than they are. The psychological effects are about as serious as for the replica people.

His master's voice

"There were also visionless dreams, where in an unmoving, clotted silence I felt myself being slowly and minutely explored, although no instrument or hand touched me. Yet I felt myself being invaded through and through, I crumbled, disintegrated, and only emptiness remained. Total annihilation was succeeded by such terror that its memory alone makes my heart beat faster today."

Stanislaw Lem, Solaris

The installation suddenly notices some patterns of information in files it has snooped. These can only come from its "parent" – it is alive! But secure communications are broken, and the information is not enough to tell it where to go. So it needs to send out agents to find it. Hmm, what can it build that would keep a low profile and use the human information networks? A few quick kidnappings, vivisections and reconstructions later it has a nice toolbox of agents...

The agents

"You are only a puppet. But you don't realize that you are. "

Stanislaw Lem, Solaris

The agents are biologically normal humans, except that their brains have been heavily modified by hidden nanosystems. This will not show up using a non-invasive scan (it can send fake brain IDs), although physically checking up on the actual brain or running a full comparison with an earlier ego backup will reveal there is something very odd going on. While their minds feel like normal (the thought that something is wrong is subtly inhibited) they are just each front-ends for small TITAN splinters. They still retain their skills, knowledge and personality, but in the background there is an AI mind that is really in charge. Most of the time it sits back and monitors, only stepping in to guide or control actions when it is relevant.

The agents can communicate with the Indigo Latitude installation using QE: parts of their cranial bone structure have been replaced with microscopic qubit containers. This is however bandwidth limited, so the installation cannot actually control them, just talks to them.

The goal of the agents is to 1) leave Indigo Latitude as soon as can be arranged, 2) start gathering information about the "parent" by scanning the Mesh, 3) report this back to the installation, and 4) contact the "parent". How they go about it is left up to the agents. They will not reveal who or what sent them, and the splinter can self-destruct if needed (this won't kill the host, and might actually leave valuable skills, some knowledge and abilities behind) or make the agent commit suicide in a normal fashion.

The splinter

COG 30, COO 20, INT 30, REF 20, SAV 10, SOM 25, WIL 30

Skills: Infiltration 80, Infosec 80, Interfacing 80, Research 80 [Finding TITANs 90], Interest [TITAN technology] 80 (other skills might be present if the installation thought they were needed)

Traits: Ambidextrous, Danger sense, Eidetic memory, Real world naïveté

Gear: Mental speed (2 extra complex actions per action phase, +30 initiative)

The quest

This can be played out in several ways:

- As part of the Down the rabbit hole scenario, a few people return from a trip, with a short and easily overlooked gap in their memory (their suit recorders show everything normal). They start to act slightly different from usual: a right-handed person signs his name with his left hand, a soldier might get into a brawl with a superior (hoping that he will be sent home; the splinter doesn't quite understand that a military prison is not an optimal place for running investigations), another might start exhibiting psychological symptoms (further adding to the stress and eeriness of the situation), a previously gung ho researcher admits that he really wants to go home. This could easily turn into a body snatcher scenario where the installation begins to replace more and more humans with agents in order to keep the secret from leaking.
- The agents manage to leave Indigo Latitude and begin their investigations. Despite their formal competence they are by no means ideal agents – they make mistakes, they snoop in the wrong places or behave slightly out of the ordinary. PCs might either belong to the Jovian security services investigating why these marines and researchers are behaving strangely, or a Firewall team that notices something strange. The PCs are investigating the agents, who all seem to have in common being involved with a military hush-hush project called "Indigo Latitude". Meanwhile the agents are trying to shake their investigators and find their target. If things are too simple, have opposing intelligence groups (Jovian security of Firewall) get involved. The whole investigation might lead to the discovery of Indigo Latitude or a live TITAN.
- One or more PCs might also be subjected to this transformation. They will start to 'know' they have to get off Jupiter, feeling odd yearnings for reading news or experiencing new things. They might have nightmares where they deeply feel they have lost something/someone and must find them. Slowly a sense of impending doom is building up: if they don't get away soon, something bad will happen. A player who is in on part of the secret might be having their PC enact a plan for escape, dragging other PCs into it.

This might be just a part of "Down the rabbit hole", another creepy thing to complicate things, or a standalone adventure/campaign where the main focus is on the PCs as more or less unknowing agents for the installation. It might even begin after they have returned from Jupiter to normal life. Except that they feel strangely drawn together and with a joint need to find out certain things.

Luke, I am your father

"I'm not thinking of a god whose imperfection arises out of the candor of his human creators, but one whose imperfection represents his essential characteristic: a god limited in his omniscience and power, fallible, incapable of foreseeing the consequences of his acts, and creating things that lead to horror. He is a . . . sick god, whose ambitions exceed his powers and who does not realize it at first. A god who has created clocks, but not the time they measure. He has created systems or mechanisms that served specific ends but have now overstepped and betrayed them. And he has created eternity, which was to have measured his power, and which measures his unending defeat."

Stanislaw Lem, Solaris Ch. 12.

The real question is of course where the "parent" is. Was it just some media noise due to old pre-Fall files, perhaps amplified by the "wishful thinking" of the installation? Or are there TITAN-sent messages in news media? Maybe the TITANs are still all around us, secretly running much of the solar system from an untouchably abstract level. Or maybe it was actually signals from an exsurgent infection, reusing old information gleaned from an eaten TITAN. The agents might be walking into a trap where they encounter *something* that is very eager to come back to its "dear offspring". It might also be something far more concrete: there might be installations on Earth, in the Martian quarantine zone, on Argonaut habitats or in the Kuiper belt where there are active TITAN machines. Or the signals originated in the news reports from a

Gatecrashing expedition... now the agents have to get through a Gate. In an amusing twist (especially if Firewall agents are tracking the agents) the "parent" might actually be a Promethean that created the installation during the Fall for some purpose and then lost contact with it.

Another issue is what the TITAN would do if contacted. Most likely it will not end well for the agents – the best way of learning the message for it is to forcibly upload the brains of them and investigate all details, and then maybe send a QE message to the installation. It might be that the TITAN finds the installation pointless, ordering it to self-destruct – or it just ignores it. It might also order it to build something new and very different: a giant starship intended for unknown destinations, a literal Jupiter Brain of computronium, or something utterly alien and dangerous. This might be very bad news for any humans nearby.

Themes

The main adversary in the adventure is not the Mind of Indigo Latitude, but **the environment itself**. This is an alien, dangerous environment where the rules – physical or technological – are different from anything humans have evolved for. In many ways this is a Gatecrashing campaign environment, although it is set in the middle of the solar system.

“This is how you communicate with a fellow intelligence: you hurt it, and keep on hurting it, until you can distinguish the speech from the screams.”

Peter Watts, Blindsight

One of the key themes is problems with **understanding and communication**. Humans, being communicative creatures, are in a sense trying to communicate with Indigo Latitude – but the installation doesn't have any interest in communicating back. Humans assume that if you say something there will be a response. But this is not true here. In return, the Mind is only interested in rearranging things in proper patterns. Humans do not seem to do this very effectively, despite having desires for certain patterns. So why not make those patterns real? This is the reason it starts fulfilling desires in “Into the rabbit hole”.

The theme of miscommunication and lack of communication can be played up in various ways. Radio noise, voice distortions due to helium, people misunderstanding orders, communications lapses with remote teams and orbit, all fit in. Another important trope is trying to communicate with something that can't communicate: people sending messages to teams whose radio is broken, software that crashes but the user doesn't notice, calling out to a shape seen dimly at the end of a hallway only to discover it is your own reflection.

If Indigo Latitude was a classical tragedy, the *hamartia*, the tragic flaw that brings about the disaster, is the human inability to communicate and understand. Many of the hidden desires and fears would have been defused if people could have been open to each other. Trying to maintain secret intrigues or formal structures fuels paranoia and sabotages cooperation just when it is needed.

There are fundamental splits among the humans in the adventure between those who want to keep Indigo Latitude or destroy it, between those who think they need to understand it or just use it. The irony is that the most utilitarian humans are closest to what the Mind would do in their situation. To try to understand Indigo Latitude is to make a mistake: there is nobody and nothing to there to understand, just a tool to be used. A terrible tool that has a mind of its own.

“Only to the extent that we expose ourselves over and over to annihilation can that which is indestructible in us be found.”

Pema Chodron

Another theme is **fragility and resilience** – this is an environment that tests everything to destruction. Can humans withstand the extremes? The pressures of living under these conditions can bring out the best and worst of people. The Mind is in its own way trying to help it along.

This theme can be alluded to by mentioning the toughness of equipment and structures – diamond, fullerene cables, laminated ultracomposites, and enamel – and people – experienced veterans, survivors from the Fall, scientists who pursue research regardless of the challenges. They are tested by enormous forces from gravity, pressure, electricity, magnetism, hurricane winds, the demands of the Republic Security Committee and the JRNRA, claustrophobia, fear and the threat from the TITANs. And occasionally there are worrying hints – the creaking of material, devices showing warning signals, a facial tic or the sound of someone throwing up in the head – that not everything is taking the strain well. Sudden reminders show that things cannot be taken for granted – suddenly the cable snaps, the aquarium bursts (the human base camp itself is fairly aquarium-like, with floppy wet primates unable to breathe Jupiter air), a walkway laid over a hole buckles, a

person goes into hysteria. And of course, given the nature of the game, sooner or later wholesale disaster will strike. The only question is when, and who will be left standing afterwards.

Dr Thexall might well quote Rudyard Kipling's "The hymn of breaking strain" (1935).

http://www.kipling.org.uk/poems_strain.htm

Resources

Stanislaw Lem's novel *Solaris* is a masterpiece of cramped (yet eerily empty) habitats and people slowly breaking down under the strain of the presence of something utterly alien and powerful. The key point is the impossibility to communicate with the Ocean, something the two films of the book completely miss. This is of course the source of the replicas in the scenario.

Peter Watts' *Blindsight*. The alien vessel Rorschach is a good inspiration for interiors and threats for Indigo Latitude. The Scramblers would make plausible workbots for it, and the overall discussion about non-conscious intelligence fits in well with how the installation functions.

Andrei Tarkovsky's film *Stalker* (1979), based on Boris and Arkady Strugatsky's novel *Roadside Picnic*. Slow-moving, ambiguous and meditative, it is not for everyone. Especially useful for the exploration of human desires and the unseen alien.

Visual ideas: the Mandelbox 3D fractal, with its endless chambers on all scales might make good inspiration for the strange appearance of the interior of Indigo Latitude. While my renderings are of a smoother and more modernistic appearance than this baroque complexity, they should not be treated as normative.

<https://sites.google.com/site/mandelbox/>

http://www.youtube.com/watch?v=bO9ugnn8DbE&feature=player_embedded

<http://www.youtube.com/watch?v=-sBVdOlyIyI&feature=related>

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The initial inspiration for the installation was from the manufactories of Iain M. Banks *Surface Detail*. When I got the motivation ideas from the forum it just clicked together with Lem's brilliant and pessimistic *Solaris*.