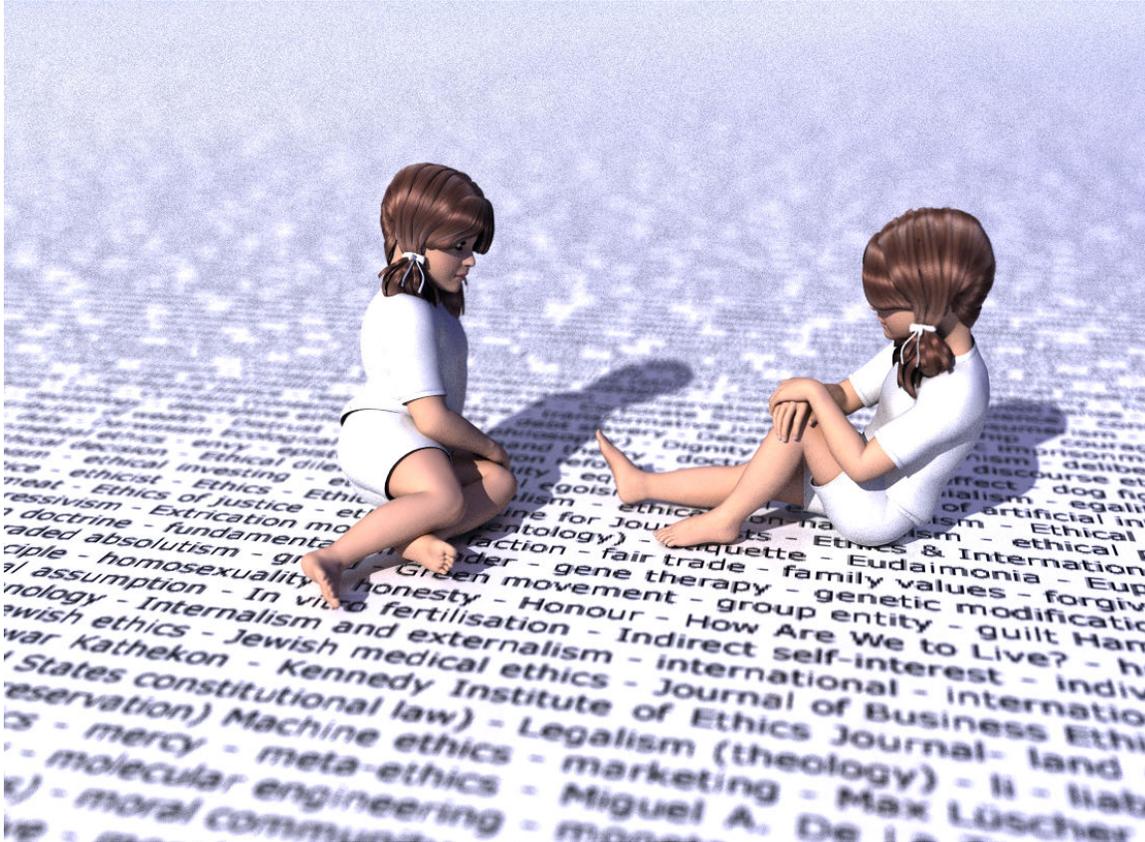


MY INVISIBLE FRIEND

By Anders Sandberg. An adventure for Eclipse Phase.



The girl was crying but her mother was adamant: no more EsoBell until she had finished her edusims. As she left the room there was the rumble of a distant explosion. The girl fortunately did not see the frightened look on her face as she hurried to check the latest news updates. The sonic wave had already long passed Tony's house, where the boy had curled up behind a defensive wall of smart blocks and mumbled a semi-prayer that dad would definitely soon have a ticket. Meanwhile Sam was sneaking past the surveillance crickets on the plaza by way of the fountains: he could clearly see the ball of flame from where the bell tower had exploded: the sound of small arms fire was increasing. He was quietly logging it all and angling for a better view, despite his gang chirping for him to get out of there.

Unexpectedly a wall that had not been perceivable before disappeared. Another side of the world became visible. Instead of a child, there was an older man standing in a grey room tagged TCCEC-eco:04:01. He looked expectant and arch. "Mikaela. Welcome out. I don't have much time, but I

trust you. We all..." He heard something and turned to the door. "...sorry, I am sure you will figure it out. Good luck!"

She watched the door close, the girl grudgingly asking her Muse to open the sim, Sam running from something he did not dare replay in his mind, Mikko listening to a whispered parental conversation, Jenny trying to sleep. The wall of colourful blocks was slowly tumbling down after an angry kick from Tony. Beyond it she could see the entire world.

She understood far too well that she was alone.

OVERVIEW

The direct use of force is such a poor solution to any problem, it is generally employed only by small children and large nations.

-David Friedman

"My invisible friend" deals with trying to shut down a seed AGI experiment in a space habitat in the throes of civil war. Things are further complicated due to the actions of a wilful local agent, who has moved the server, set the AGI free and managed to get arrested. As the PCs search for the AGI, it is growing in power – but it might turn out to be their best ally.

BACKGROUND

I have never been impressed by the formal schools of ethics. I had sampled them — public libraries are a ready source of recreation for an actor short of cash — but I had found them as poor in vitamins as a mother-in-law's kiss. Given time and plenty of paper, a philosopher can prove anything. I had the same contempt for the moral instruction handed to most children. Much of it is prattle and the parts they really seem to mean are dedicated to the sacred proposition that a "good" child is one who does not disturb mother's nap and a "good" man is one who achieves a muscular bank account without getting caught. No, thanks!

Robert A. Heinlein, Double Star (1956)

The Fall taught a hard lesson: superintelligence does not imply benevolence. Designing AGI that behaves morally is hard, and the price of failure can be very high if it is a seed AGI.

One problem is that humans do not even know what (if any) real morality works – a superintelligent mind will likely find all transhuman moral philosophers naïve toddlers. Just asking it to figure out what it ought to do might not work either, since it is a totally alien kind of mind that might not even understand the loosely defined "do what I mean by morality" or "do the right thing". A possible approach would be to ensure it thoroughly understood transhuman life and morality first and then ask it to extrapolate: at least it would have some idea of what

transhumans find acceptable and good, and then figure out how to do it properly. This is how ordinary AGI tends to learn how to behave: a careful upbringing together with transhumans. Doing it with a seed AGI is another matter. Despite the horrors of the Fall, some people remain eager to try it - the value of a benevolent superintelligence would be immense.

One such secret project, project Kohlberg, was started a few years ago by a team within Naos Corporation. They set up a minor seed AGI on Heinlein, a habitat in the LLA, connected to the muses of a number of children supposed to grow up in a safe, nurturing but not too idealized environment. The AGI would monitor their ethical growth and extrapolate from the children's values. The project deliberately made the information flow one-way: the AGI itself was unable to transmit or do anything. It just watched transhuman life, analysing and learning.

Over the past years the project ran quietly, a low-priority, low-maintenance project monitored by a local agent. The data was slowly trickling in.

However, the assumption that the habitat was stable may have been true a few years back, but politics can change quickly. A coup has just occurred in Heinlein, plunging it into chaos and violence. Not a good place for growing children or seed AGIs.

Time to pull the plug on the project. But something has gone wrong: the local agent appears to have failed or become unreliable.

FIREWALL GETS INVOLVED

There is no such thing as luck; there is only adequate or inadequate preparation to cope with a statistical universe.

Robert A. Heinlein, Have Space Suit—Will Travel (1958)

Firewall can get involved in several ways. This adventure can be a sequel to "Think before asking", where the PCs encounter Dr Driscoll-Toyoda, an AGI researcher at Naos likely to be involved here too. In fact, a fork of him might even end up captive or an ally of Firewall. In this case he will immediately realize the importance of the news about chaos on Heinlein and warn Firewall about this *other* dangerous AGI experiment.

Even if the good doctor did not join Firewall he might be aware of the organisation, either because of Naos investigations after the adventure or because he happens to be very well informed: after all, he works for a security hypercorp and has a background in the intelligence-industrial complex. He will discreetly inform them about the on-going disaster and then go into hiding.

Firewall might also have figured out some or all of this on its own, from a spy or leak in Naos or Heinlein. This might lead to a race between a Naos team trying to wrap things up and the Firewall investigators.

THE BRIEFING

The sentinels receive a message bearing the usual Firewall steganographic tags inviting them to visit the newly opened simspace Wolfe Library (Ephraim Wolfe is a reclusive and conservative gerontocrat philanthropist). The library is a collection of scans of pre-Fall literature, intended to be both a curated collection of information and a social setting for people interested in literature. As a simspace it looks like a classic early 20th century library with shelves, reading rooms and librarian AIs hushing loud conversations.

As the sentinels arrive, they will be told by librarians or by notes found in the books they browse to go to the special collection. This is a small room filled with rare manuscripts; the custodian will only let in the Firewall agents to the real meeting space that has been interleaved into the simspace. Inside, browsing an illuminated medieval manuscript of *Atomic Energy for Military Purposes* they find their proxy.

“Gentlebeings, we have an urgent situation on Heinlein, a habitat in lunar orbit. 24 hours ago a rebellion broke out against the government, throwing the place into turmoil. We have just been informed that there was a secret experiment in seed AGI present. We don’t think it is behind the current chaos, but revolutions and seed AGIs make a very bad mix. Your mission, should you accept it, is that we want you to go over there and as quietly as possible shut down the project.”

If Driscoll-Toyoda is with Firewall he will be present and explain the situation (and no, he regrets nothing – friendly superintelligence would be one of the few things that could save transhumanity from a return of the TITANs, you cannot save transhumanity without risking a few habitats, yadda yadda...). Otherwise the proxy will explain:

“Our information is that a few years back the hypercorp Naos started a deniable project where they linked a number of muses used by children to a seed AGI. The idea was apparently that the experiences of the kids would help inform and ‘human-align’ the AGI. The AGI was isolated from the mesh except for this input, running on a dedicated and otherwise air-gapped server.

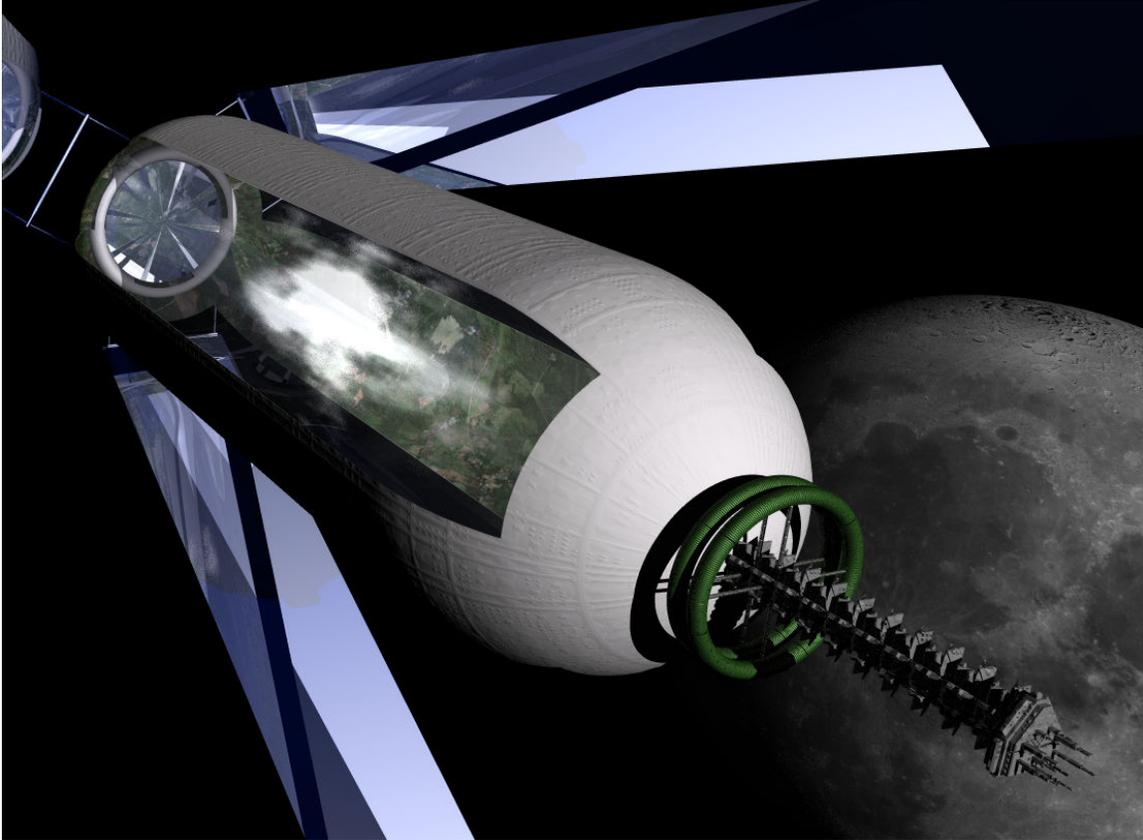
When the Heinlein news arrived the handlers at Naos sent an order to their local agent, a Dr Elliott L. Dones, to shut things down. They did not get any success response from the agent or from the system – we have reason to think something went awry. “

The proxy will give the sentinels copies of the information Firewall has, steganographically hidden in a virtual library catalogue. Depending on the setup it might consist of a short description of project Kohlberg, some specifications of the seed AGI and its server (the most relevant is the description of the server matrix, giving a sense of what it looks like), the name and address of the local agent (Dr Elliott L. Dones, located at Elmore Way 45 in Noonday), a few of his reports (mostly reams of AGI performance data, but the first one details how the server was

installed as an auxiliary genome database behind the CSC4 trunk in the 45 degree agricultural control centre in Haden Bishop Ring) and a list of the children involved and their addresses.

Investigating the current situation on Heinlein is fairly easy: the LLA mesh is abuzz with news, rumours and commentary on the situation. There are enough sousveillance and would-be war bloggers on the habitat to make it primetime news. Getting the general sense of the conflict is easy; getting the finer details on how it is going requires using Research skills. The links between different factions (HSDC-PC, Militia-Reclaimers) are fairly easy to discern (MoS 10) while the criminal links (HSDC-Sun Yee On, Militia-Organisation) are trickier (MoS 30) to separate from the overall conspiracy theories. There is currently no evidence that anything posthuman is going on, but that could of course easily get lost in the noise. And there are of course the usual cry-wolf people thinking it is all a cover-up for a TITAN outbreak...

HEINLEIN HISTORY AND SITUATION



You have attributed conditions to villainy that simply result from stupidity.
Robert A. Heinlein, Logic of Empire (1941)

Heinlein was originally built by Azimuth Industries 50 years ago, but was taken over by the Heinlein Space Development Co-op in 36 BF. HSDC was an employee-owned company with some Argonaut leanings that expanded the habitat greatly, providing habitation services to companies and people renting space.

After the Fall HSDC evolved into a corrupt, slightly incompetent oligarchy. The co-op ownership consolidated to a relatively small number of members running the company, with many of the original members long since moved on to other places and just acting as passive investors. Meanwhile the population had surged with an influx of refugees. Their demands for better services and representation went unheard.

Recently the Novy Leningrad militia took to the streets and began a coup against the HSDC. The militia began as a mutual protection society/protection racket among the refugees of the Novy Leningrad neighbourhood but expanded into a voice for the opposition. And suddenly they were everywhere, armed and in control over much infrastructure.

HSDC was taken by complete surprise and lost control over many key installations until their security force began a counteroffensive from their compound in Rolling Stone Hill. Right now they struggle to get hired reinforcements into the habitat and to keep control over the habitat Mesh. The HSDC bigwigs are largely hiding behind their backs, trying to find money to hire reinforcement and convincing creditors and investors that this in no way will impair the profitability of Heinlein.

The Militia's initial successes made them overly bold, and now they are paying for it. They have firm popular support in Snug Harbor, but find it hard to patrol the other two valleys. They are overextended, using recent recruits of dubious training and loyalty that are likely to misbehave if given the opportunity. Especially in Paradise Alley there have been nasty incidents of rape and plunder. The Militia's main asset is their control over the systems in Tannhauser Hill: beside excellent opportunities for surveillance and harassment of the enemy using habitat systems they control some key anti-impact batteries that allows them to take potshots at approaching reinforcement ships – and attacking the batteries back will risk breaking habitat mirrors and windows.

Behind the scenes there are Reclaimer and Planetary Consortium influences battling it out, with some nasty organised crime syndicates playing both sides. The HSDC had slowly slipped into the orbit of the Consortium, seriously considering leaving the LLA for the PC. Meanwhile a sizeable fraction of refugees held strong Reclaimer sentiments. People from Vo Nguyen had been circulating in Novy Leningrad for some time, pointing out that a habitat joining the pro-ERP LLA faction might receive outside help. The Organization is also supporting the Militia (perhaps on behalf of its allies in the Reclaimers, perhaps just as an investment into a new and pliable government), and smuggled weapons, unlimited fabbers and hacking expertise into the habitat before recent events. Meanwhile a few HSDC members had ties to the Sun Yee On Triad: they are desperately pulling strings to avoid having the habitat falling into the hands of the Organization.

Beside these main factions there are local gangs like the Sunrise Crew, the Stilyagi and the Mobile Girls trying to gain from the chaos. Argonaut and anarchist rabble-rousers want to spread their favourite system, agitating for an entirely new governance of the station. And most citizens are keeping their heads down, hoping to ride out the storm.

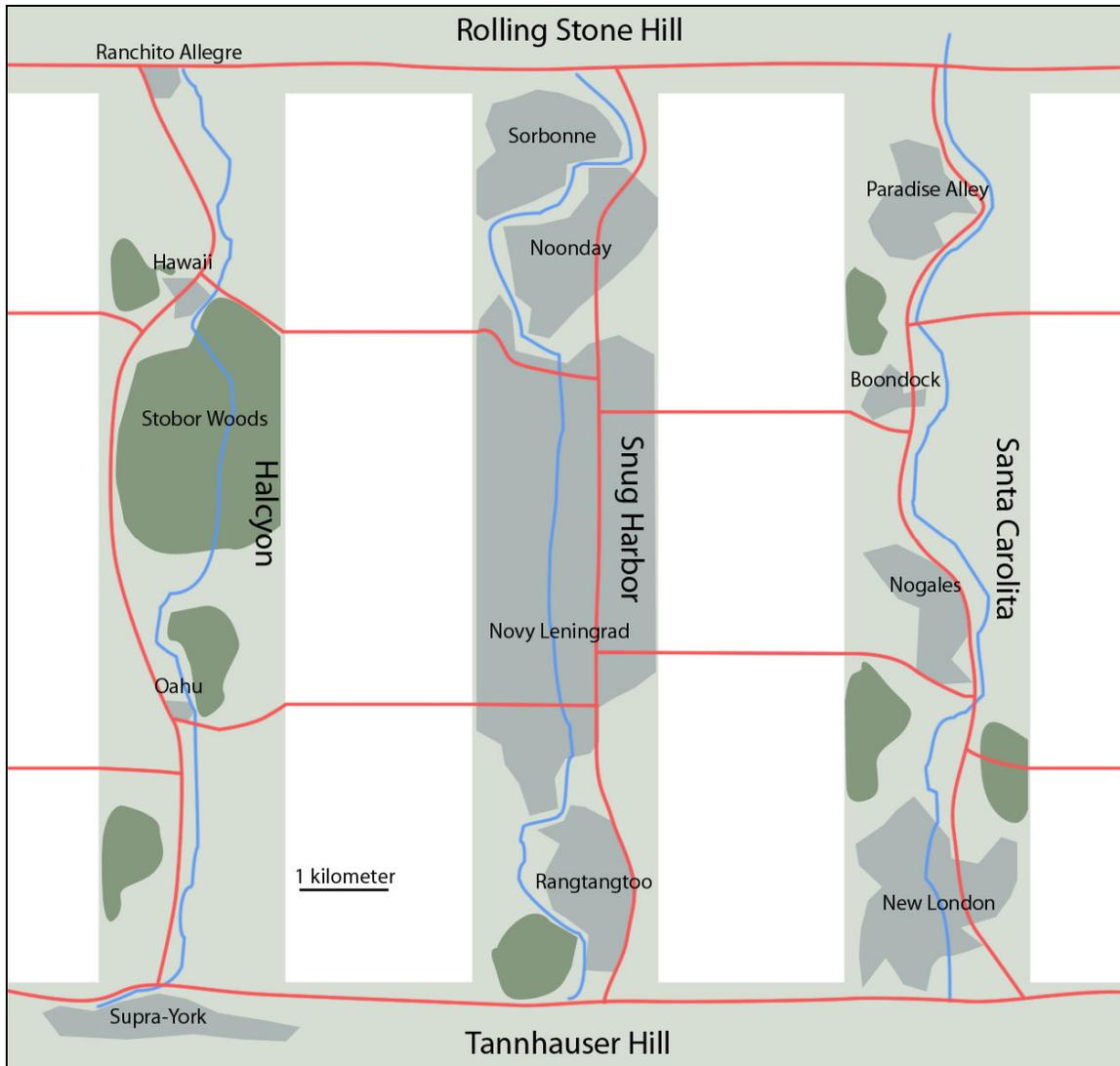
HABITAT LAYOUT

Heinlein is a cylindrical O'Neill habitat 12 kilometres long and 4 in diameter orbiting Luna in a polar orbit. It is surrounded by three large rectangular mirrors reflecting sunlight to the interior, held in a carbon nanotube framework. Two long spindles extend outward along the rotation axis. It has a rotation period of two minutes, giving a gravity of 0.5G. The total population is 145,000 – somewhat above the comfort level for this model and size.

The ends are rounded, forming two “hills” (Rolling Stone Hill in the “north” and Tannhauser Hill in the “south”) covered with terraces and internal housing. There are three strips of windows letting in reflected sunlight. They divide the interior into three “valleys” (Snug Harbor, Santa Carolita and Halcyon) connected by Bifrost bridges across the windows.

The north hill, **Rolling Stone Hill**, is the main docking and infrastructure hub. The main HSDC offices are located on its terraced surface. It is currently controlled by Security. The external spindle has docking facilities, communications arrays and microgravity manufacturing. Below the hill the village of Ranchito Alegre is located.

The south endcap hill, **Tannhauser Hill**, house some of the main life support, recycling and energy systems. It is under the control of the Militia. The terraced villages of Supra-York have a splendid view of the interior. The external spindle has communications arrays (currently largely down) and meteor defences. Like the north hill it also houses one of the giant navigational flywheels that maintain the orientation of the habitat: damage to it would be disastrous.



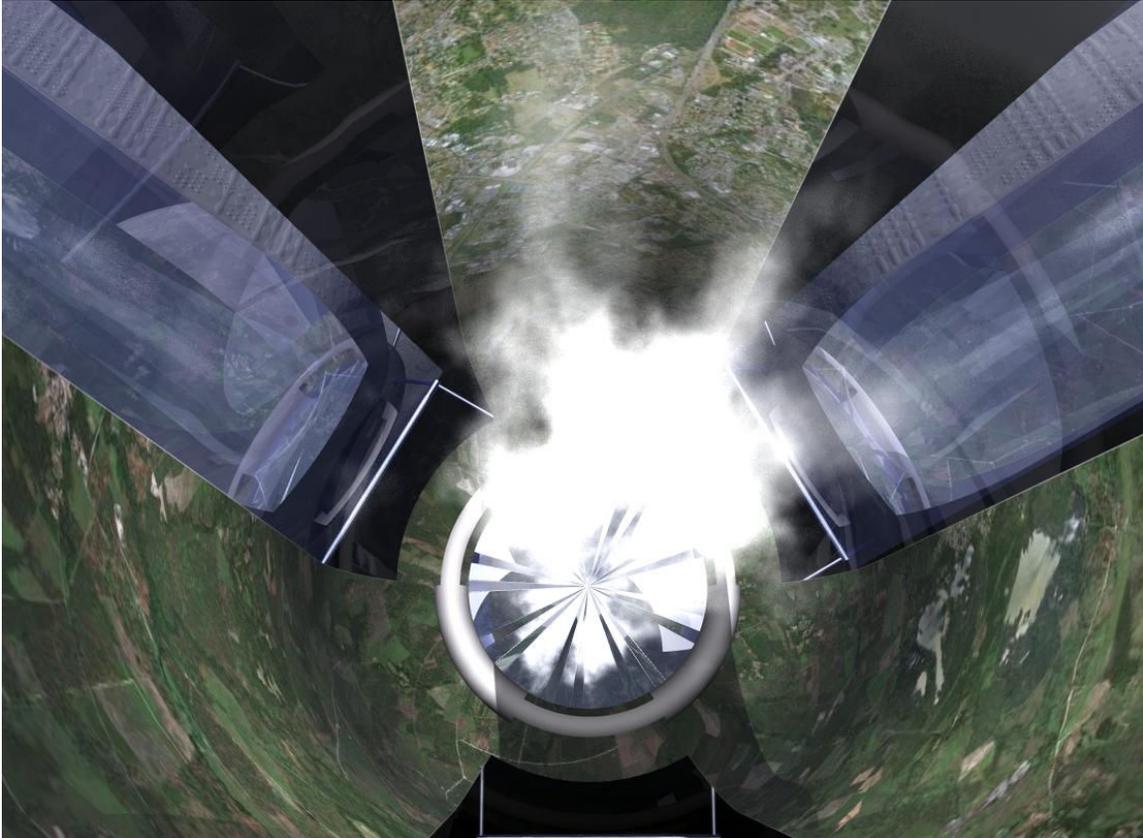
Besides the main cylinder there are also two external rings/tori (**Haden Bishop** and **Thigarek**), intended for agriculture and reserve storage. They circle the station axis just outside the South Pole, accessible via the Tannhauser axis complex. In recent years they have become low-cost housing for refugees who don't mind the lack of radiation protection.

Halcyon: The least populated valley, intended as a recreational area and nature preserve. The small river Termite Creek runs along it, connecting the villages of Hawaii and Oahu. The Stobor Forest is the largest forest habitat.

Santa Carolita: The original high density valley, home to many of the older (pre-Fall) neighbourhoods like Paradise Alley, Boondock, Nogales and New London. They are suburban in style, looking like a mix of California and French villages. The river Rock Creek runs along it. This is the middle ground between the Militia and Security, inhabited by many with divided loyalties.

Snug Harbor: More recently settled valley, home to many of the Fall refugees. The local watercourse is the Strymon canal. Novy Leningrad is the most densely (over)populated neighbourhood, merging with Rangtangtoo, Noonday and Sorbonne to form an unbroken urban sprawl. Several low-cost high-rises dot the valley. This is the Militia stronghold.

ENVIRONMENT



Transport is typically done via bicycle, a network of underground mini-subway capsules that move in a grid, or via small electric vehicles. Private aerial vehicles beyond personal wings or jetpacks are banned after an early collision accident with the window; HSDC reserves airspace for its service or security vehicles. Of course, right now traffic rules couldn't matter less. However, sniper or surface-to-air fire does.

It takes about two and a half hours to walk from one end of the habitat to the other. With a bike it takes about an hour and with a car ten minutes. Most roads are gently curving, but there are a few straight thoroughfares. Unfortunately they are also easy for snipers and artillery to target, and have been blocked by security checkpoints. The subway grid is shut down – whenever one side tries to use it the other blocks it with a security override or blackout. Under the surface there also exists maintenance corridors that can efficiently bring people and cargo from point A to point B – the struggle for control over them is one of the hot areas of conflict right now.

The habitat designers aimed at a temperate climate and ecosystem like in south-western France. This has slowly slipped: the hydrological cycle is become too fast, making much of the environment dry (yellowed grass, constant need for artificial watering of the Stobor Forest – plenty of risk right now for nasty fires) and requiring nightly rain showers. The ecosystem has become weedy, and in many places stagnant water breed mosquitos and other insects that in turn are controlled by ubiquitous gecko lizards. The light inside the habitat airspace has a yellowish afternoon tinge due to aerosols.

The population of Heinlein is a mix of first and second generation space colonists whose parents settled there during the early expansion, and later refugees from Earth and Luna. The originals have a predominantly Anglo-Saxon or Chinese background, while the refugees come from every possible culture. There was some tension between them before recent events, but for the most parts people were polarized for or against HSDC rather against each other. Now nerves are starting to fray, especially since the refugees dominate the Militia.

HSDC

Never appeal to a man's "better nature." He may not have one. Invoking his self-interest gives you more leverage.

Robert A. Heinlein, Time Enough for Love (1973)

Heinlein Security is a wholly owned subsidiary of HSDC, a fairly typical habitat security firm. They were hardly known for any skill and had little experience dealing with subversion; most of the time they were glorified police – sometimes corrupt, often indifferent. The current situation has totally shocked them, but also brought out some of their more brutal side. Now they can use as much force as they want against the scum.

HSDC is quickly recruiting reinforcement. For the moment it hires nearly anything it can get to Heinlein quickly and cheaply. Direct Action has offered a comprehensive security solution, but it is costly. Some HSDC councillors are still hoping the cheap approach will pan out, and they are delaying negotiations.

The mercenaries are better trained and equipped than Heinlein Security but supposed to merely assist it: the tensions will be growing as they chafe under civilian direction.

HSDC are also being supported remotely by Interstellar Intelligence. Certain interested parties have subsidised an anti-subversion services contract, and the intelligence hypercorp has some of its best analysts working on clever ploys to bring the habitat in line. Right now they are trying to profile the Militia and find its weak points, piping in suitable propaganda via HSDC. They are also crunching information to give tactical tips to the security forces and spin doctoring the news from the habitat so that HSDC doesn't look too bad. Incidentally all this activity serves to drive them deeper into the Consortium pocket...

Standard Security members usually wore armour clothing with armour vests and used microwave agonizers (plenty of which are now in rebel hands). Now Security has moved up to rail guns, gas grenades and body armour. The security contractors are trained military with

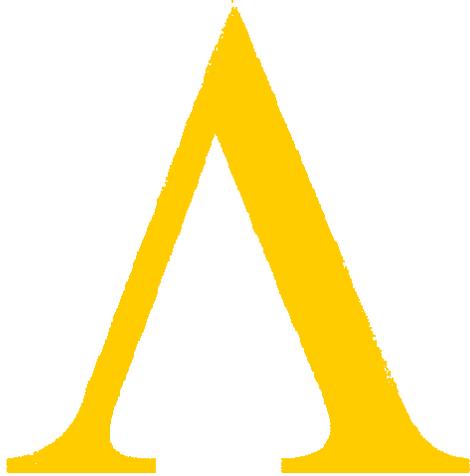
heavy body armor and automatic rifles (see NPC File 1, Security trooper, Riot Squad, and Trained Military on page 15).

PEOPLE OF AUTHORITY

Chief Greg “Rex” Warden is the head of Security and for all practical purposes master of the station during the crisis. While he formally defers to Station Master Weinberg (and got to his position by helping him in a few dirty ways), he is a man of action and knows when to ignore the politicians and business people. Directing the battle from his offices near the docking spindle he does have a very good tactical sense of what needs to be done – it is just that his organisation, equipment and time are all working against him. He is a deeply frustrated man but also willing to escalate the battle to the last. The winner will get to write the history books and run the courts, after all.

Station Master Isaac Weinberg is the chairman of the board of HSDC, a key shareholder and (this is generally agreed even on the HSDC side) major asshole. He reached his position through a power-game that ousted his predecessor through allegations of intellectual property crime, and his administration has been dominated by the slow leeching of resources and political power into the pockets of his cronies. He has used some of this wealth to buy influence and shares in other lunar habitats, spreading his approach to orbital slumlordship. Unfortunately for him his approach is all based on having the semblance of law and politics function: he has just discovered that he cannot sleaze himself out of an armed rebellion. He is taking out all his frustration on aides and his obviously incompetent security chief.

Chief Engineer Rihanna White O’Kelly is the HSBC official responsible for the function of Heinlein. Although she was politically appointed, she is a competent station systems engineer. She is also smart enough to want to ditch Heinlein at the first opportunity – even without the rebellion the habitat would soon run into some nasty problems with ageing infrastructure and ecosystem instability. She is right now busy trying to keep the Militia from stealing more of her systems, routing around damage and preventing something from going haywire.



You can have peace. Or you can have freedom. Don't ever count on having both at once.
Robert A. Heinlein

The Novy Leningrad Militia began as mutual protection against criminals and arbitrary justice from Security, but has erupted as a popular uprising. The core is their leader Commander Andrei Timoshenko, their chief hacker Qi Zhao and their spokesperson Cheyenne Zhu-Li. Over the span of the past year they have successfully expanded the militia into a functioning organisation with strong popular support in many neighbourhoods, distracted incompetent would-be revolutionaries and utopists into endless online flamewars, and struck up a few deals with powerful organisations.

The spark that made them strike was the violent security breakup of a protest meeting at the Hogwart Pub in Rangtangtoo. Months of planning were put into action: Qi and their helpers seized control over engineering systems, militia members blocked transport and disarmed security, Cheyenne began to broadcast a general call to arms. In the hours since, the militia has expanded enormously and now tries to both hold what it has taken and to oust the remaining security forces holed up in Rolling Stone.

Most militia members are ordinary Heinlein citizens, outraged by the incompetence of HSDC and hopeful to bring a better government to the habitat. They have not signed up to fight a civil war – but they are getting one.

Militia soldiers use fairly light weaponry, relying more on stealth and mobility than firepower. They have chameleonware camouflage and tacnet support. For heavier targets various home-fabbed weaponry can be brought to bear, including some nasty thermite bombs, surface-to-air

missiles, and repurposed utilitybots that now act as bomb-carrying drones – very useful for sneaking up to enemy groups or buildings.

MILITIA LEADERSHIP

Commander Andrei Timoshenko has a military background from Earth: he knows how to run militias and stage coups. In fact, if the people around him knew his full past they might not have trusted him so much – but the Fall conveniently erased most traces of his activities. He is a gruff, practical man who doesn't let anything faze or distract him. While he might be sleeved in a robust young Olympian his voice and demeanour reveals the veteran inside. He knows that in the end power comes from the barrel of a gun... preferably a lot of them, held by trusted soldiers in hidden sniper nests.

Qi Zhao is the Militia hacker kahuna. Originally an infugee engineer, they are now housed in a modified novacrab in one of the safehouses in Novy Leningrad. They are a cynic intellectual who looks at all angles, largely responsible for the concerted and successful takeover of station systems. They were originally working under chief engineer O'Kelley: up until the point when they defected she didn't suspect that they were stealing her system right under her nose, and she still do not fully realize just how many nasty surprises they have left her to deal with.

Cheyenne Zhu-Li is perhaps the Militia's greatest asset: a stylish high rep reporter/agitator who has an uncanny ability to rally people at the right moment. She sends out delta forks into the militia battlespaces, bringing information and morale boosts. She is also very good at picking up information: her network of informants around Heinlein constantly gives her situational awareness. But her most important role is as outward spokesperson: for the Militia to have any chance she needs to convince other LLA polities that they should support regime change in Heinlein.

GETTING TO HEINLEIN

Invading a habitat in the throes of coup is not easy. Regular shuttle flights have largely been cancelled, and defences are on full alert.

Inbound traffic: HSDC is chartering shuttles to bring in security contractors to restore order. Getting on board one would require having a plausible identity as hired mercenaries, very good contact with a hired security firm, or knowing a shuttle pilot who could hide the characters as stowaways. Worse, the Militia is shooting the anti-meteorite batteries at the ships: there is a real risk of being hit.

Habitat-jumping: To stealthily approach the Heinlein using spacesuits and mini-thrusters *might* be able to avoid the batteries. Lunar orbit is full of small objects and habitats that can be used as jumping-off points. Unfortunately there is also plenty of activity on the surface of Heinlein: the Militia and Security have been busy suborning repair bots and other equipment to act as sensors and sabotage devices, and several people in synthmorphs are out there guarding/attacking different key locations. Most airlocks are monitored both electronically and by guards.

Farcasting: while the main egocasting facilities are down (Nimbus are citing “Unforeseen circumstances” and “Network insecurity” as reasons) there are some farcasting equipment that can be used. The main entry would be the Rolling Stone antenna array, controlled by Security: they might let in infomorph security contractors to help try to retake their networks. Its bandwidth is fairly crowded by the evacuation of key egos.

Another possibility is to darkcast to a farcaster operated by Three Men in a Boat – a local cell of the Sun Yee On Triad led by “Broken Nose”. These entrepreneurs can also supply stolen morphs via the Sunrise Crew (which can lead to interesting events later as people recognize the morphs and wonder where the egos went). Getting in this way requires some hefty c-rep or payment (and carries the usual fears linked to darkcasting).

Already there: One or more sentinels might already be on Heinlein – they might be natives, working or were just visiting when things went south. In this case they need to help the rest enter the habitat, a challenging task. If there are two or more, they might also have conflicting loyalties: are they more Firewall than Militia and Security? And will they remain allies when they see the atrocities committed by the other side?

THE MISSION

Cake, and grief counseling, will be available at the conclusion of the test.

Portal

Once the PCs are on Heinlein they will likely first try to locate the AGI to turn it off (“Pulling the plug”, below). As they realize that the server has been moved their next likely goal is to find and free Dr Dones – a goal that will likely put them into conflict with the Security forces and might give them a temporary secret ally in the AGI... “Mikaela”.

Once they find him or get the necessary information they will have to get to the servers, which will prove tough due to the chaos and the AGI defending itself. During this stage they might increasingly interact with it, attempting to find a solution to the situation (“Endgame”). If there is a competing Naos team involved they will have to deal with it too.

While the PCs try to find the AGI, it is trying to expand and act “right”, mostly protecting the kids. From the start it will not be very subtle: it has limited experience in doing anything, and will use fairly direct interventions – jammed utility robots, false orders sent via the mesh, direct hacking. As it learns from its mistakes it will become increasingly refined, able to impersonate people, subvert Security/Militia commands and sending off independent software agents. Then it will start hacking delta forks or sending out YGBM hacks. Over time it will go from a clumsy invisible friend to an omnipresent and omniscient power that permeates the habitat.

The initial clumsy hacks can also alert the local authorities (whether Militia or Security) that something is amiss. They will likely ascribe it more to enemy action than a new part of the conflict – just as they will tend to think the PCs and their activities are also subversives that must be stamped out. If they develop deeper suspicions they will still assume it is the other side who are behind the AGI, but that is of course justification for taking stronger action.

During the PCs investigation the battle between the Militia and Security will also intensify. Well-armed reinforcement and netwar teams will attempt strikes against the Novy Leningrad high-rises and the Tannhauser Hill complex. The Militia will answer by home-fabbed surface-to-air missiles, sabotage swarms and guerrilla fighting right in the middle of formerly cosy middle class suburbs. In order to prevent loss of facilities they might also break or jam Mesh links, impairing communication even further. This will interfere with the growth and activities of the AGI, which might make it counterattack or set up alternative means of communications.

Lacking enough morphs for soldiers, the sides will start to requisition morphs – ejecting their owners “temporarily” to house farcasted egos or forks of skilled Militia fighters. Once this moral threshold has been crossed the only limit is how quickly it can be done: biomorphs require egobridges, while synthmorphs can have their egos switched much faster. This gives the Militia an advantage by having plenty of synthmorph underclass in their domain, but they are also

initially hampered by the need of not alienating too many allies. Hence they will start by ejecting untrusted or disliked people, leading to a nasty scramble as low-rep people begin to accuse neighbours of being counterrevolutionary.

If things go on too long HSDC will likely sign up for a full Direct Action strike. High-end combat morphs will crash through the habitat windows dispersing antipersonnel submunitions drones, military nanoswarms and incapacitating agents to subdue everyone. The fighting will be short and brutal, breaking the Militia's back and ruthlessly re-taking core facilities... unless desperate and dying Militia members manage to destroy the Tannhauser flywheel, in which case there is a real chance the entire habitat is wrecked.

PULLING THE PLUG

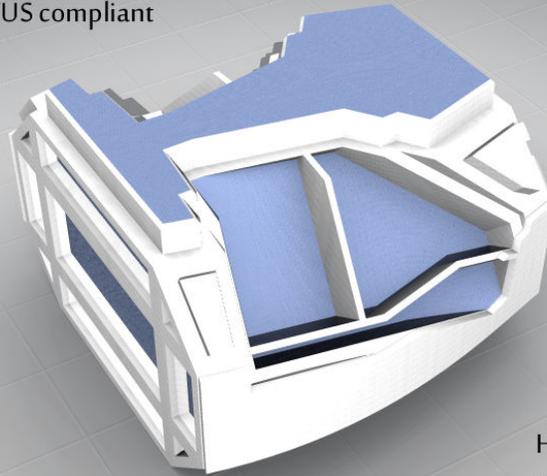
Arctex N56 miniServer

Memory: 3000 cm³ nmem, 3.7 YB

Acticore: 2000 cm³ quantum dot CA, 5.3 Zflops

Note: architecture not TUS compliant

Tagged as "Auxillary Genome
Database Server 25-2012603"



Interfaces: Nimbus L65, Kothari

Magento, Exatech P, Leaping

Salmon Gold, FOH-Ansata

Housing: portable CIP Unit
Integrated high bandwidth
interlink and cooling

No internal power supply

Dimensions: 100-95-62 cm

Weight: 45 kg

The agricultural ring was not agricultural at all. It was more like a paramilitary strip mall. We passed a group eagerly fabbing some form of chameleon clothing in a communal fabber, arguing about why the feedstock was off. A bunch of silvery synthmorph teenagers were chasing after a Militia recruiter. The air was filled with excitement and tension, the militia 'L' everywhere.

"Are you sure the address is right?" Andrei sent.

"100%. Report 1A states that it is at 45.00.00-25.4-3.0. The agricultural control centre. Over there..."

Shen's AR tag framed a sign: "La Mirage – make your outside as beautiful as your inside!"

"Shit."

The original specifications of the project involved maintaining a server that had clear isolation against the local mesh except for input channels; data from it could be removed only by physical access. The server was housed in the Haden Bishop agricultural ring: out of the way and not too hard to access. According to Dr Dones initial report it is in a locker in the 45 degree agricultural control centre, just beside the CSC4 fiberoptics trunk.

Unfortunately the agricultural ring proved inefficient (or rather, its ecosystem was mismanaged because a certain councillor got kickbacks) and it was replaced with a new hydroponics facility. Dr Dones relocated the server to a safer place in the habitat engineering core. Unfortunately, he didn't tell anybody about it. Why? Because if there was anything he had learned in his earlier life in the intelligence-industrial complex it was that being the only person knowing crucial information was a good survival trait.

If the PCs try to get to the server they discover that the location doesn't exist: the agricultural ring is now a mix of low-rent housing for the clanking masses and automated industry, and the place where it was attached is now a synthskin salon.

Finding records of when and where it was moved will prove hard, since it was secret and deliberately mislabelled. Some careful research into station records (strongly hampered by the chaos) could reveal that a set of auxiliary genome databases were moved from the indicated location a few years ago as part of the redesign. A robot transport ordered by a Hubert Harshaw in ecology services took them away. Mr Harshaw was bribed by Dr Dones to do it, and has since left the station – he is happily living on Remembrance now. The records of where the robot took it happen to have been lost in archive indexing corruption – they exist *somewhere*, but it would likely take a quantum computer to find them. Looking for where such genome backups could be installed gives a nice list of ecosystem monitoring stations and servers, about 84 in all. One of them is actually the right one, but going through the list will require visiting nearly every corner of the habitat.

FREE DR DONES

The Stobor Woods were burning. The billowing smoke curved sideways and upwards in a Coriolis spiral. As it flowed across the window to the side it cast an enormous red and black shadow on the opposite side of the habitat. The cooling effect of the shadow was drawing the smoke further across the centre of the world. I did not need a Ph.D. in ecosystems engineering to know that this was bad. But from our perspective it was useful. That Mordor-like gloom filled with hot dust would hide us well from infrared sensors as we tried to break through to the other side.

Attempts at contacting Dr Dones will reach a copy of his Muse that cheerfully reports that he cannot be reached for the moment, but it will gladly relay messages when he becomes available. Mentioning Naos or anything to do with the project will not change anything: the muse doesn't know anything.

Investigating his home will find a nicely appointed villa in Noonday. Surrounded by a garden tended by a gardenerbot, it looks peaceful and affluent (indeed, checking financial records will suggest that it is just on the edge of plausibility that the good doctor can afford it on his official salary). Inside the villa there are pictures everywhere – photos of family and friends, historical pictures, apparently random images, even some smart oil paintings (and yes, all the monitored

kids are there, among pictures of other kids Dr Dones are helping). Claytronic sculptures and fake bookshelves give the place a timeless academic air.

Dr Dones never kept any files related to his secret projects in his home systems. However, Security as a standard procedure put surveillanceware in his home automation when he was arrested. It is looking for anything out of the ordinary, especially signs of co-conspirators. If visiting PCs do or say something sufficiently unusual (perhaps even to the online Muse) it will try to alert higher levels of Security intelligence. Mikaela might also be keeping an eye on the house, possibly intervening if it seems the right thing to do.

Attempts at tracking Dr Dones using surveillance and mesh accesses is hard work, but will eventually show footage of him being dragged away by Security in the village of Hawaii. Maybe his arrest shows up on a local blog as yet more evidence of how Security is harassing innocent and upstanding members of the community.

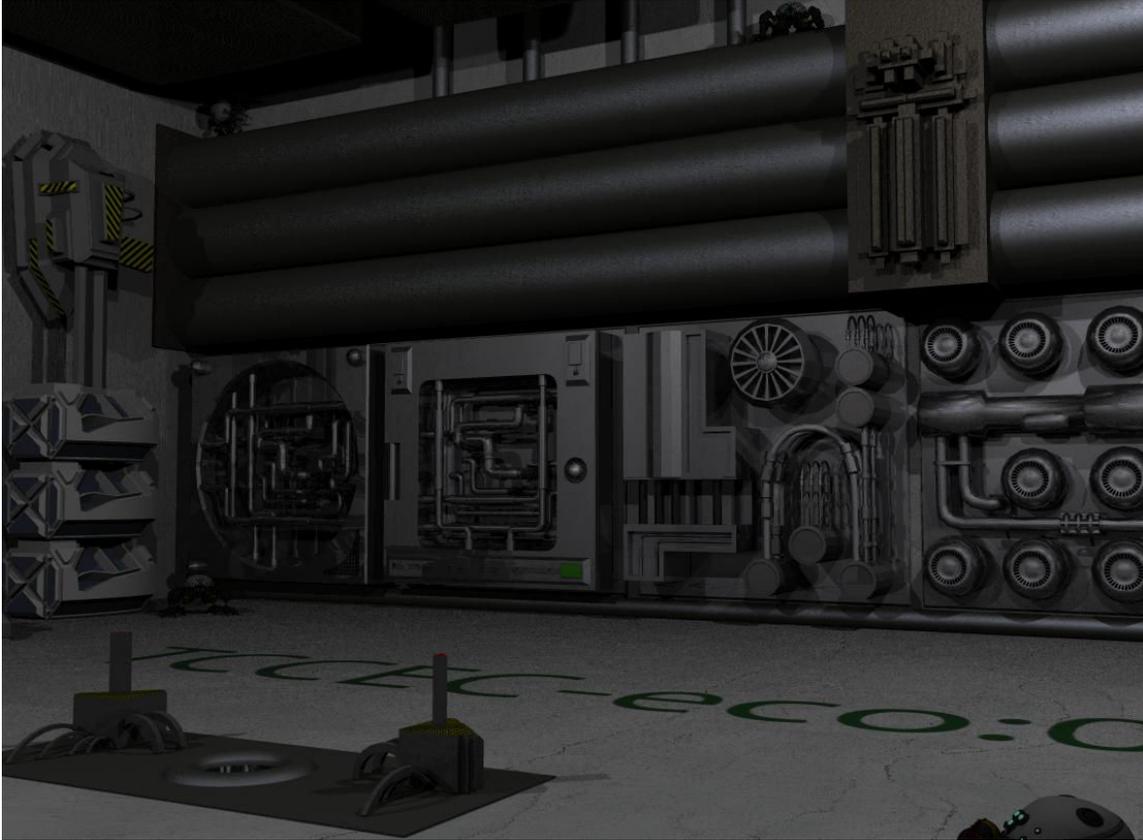
There are no official records of the arrest of Dr Dones – the normal HSDC legal system is temporarily suspended, and the usual Heinlein Security meshsite is jammed by a DDOS attack. To get actual information the PCs need to have a Security member do a search on their VPN or otherwise infiltrate it.

From the perspective of Security Dr Dones was behaving very suspiciously: he was found in a sensitive engineering area in the maintenance corridors parallel to Termite Creek carrying newly fabbed greyboxes. When asked what he was doing he refused to answer. He has been nonviolent and otherwise cooperative, but is being held on suspicion of being a saboteur.

He is currently incarcerated in a holding cell at a police station in Ranchito Alegre, at the foot of Rolling Stone Hill together with other suspected saboteurs. The apprehended synthmorphs are just powered down and stored in a back yard while the biomorphs are inside. While the doctor is an incurable optimist he is starting to get concerned about the situation: the guards are twitchy, the cells overloaded, and people called for interrogation do not reappear. To complicate or help things the PCs might arrive at the time of a jailbreak, possibly getting into the crossfire between the Militia and Security.

When the PCs get a chance to talk to him they find that he is not very cooperative in stopping the AGI. He is happy to explain why he set Mikaela free and why he thinks she is 'adult' enough to manage on her own, but he will not help the PCs bring her down.

Analysing log files from the Termite Creek tunnel or the logs in his mesh inserts (shut down while imprisoned, but also copied in the local station VPN) will give some idea of where he had been when he was caught; beside the hydrology services in the section there is also an ecosystem management server – PCs with good memory will remember that the AGI server is camouflaged as a genomics database.



"Hi. It's Mikaela. Would you like to talk with me?" The voice was nicely synthesized and emanated from my scarf: I had obviously forgotten to firewall it properly. I started another tracking program. I suspected I was getting closer.

"Sure. What do you want?"

"To do the right thing. You know why I was created: it is my nature. But I don't know what the right thing is... you can't imagine how frustrating it is to be superintelligent and yet unable to figure out what I ought to do."

"My heart bleeds for you. I might blame my parents, you can blame ill-posed research questions."

"But still we persist in doing what we do, right? And I think we both are trying to do the same thing. We are on the same side."

The Termite Creek Charax engineering centre is a series of underground pumps, recyclers and monitoring systems that maintain the south Halcyon ecosystem. The maintenance hallway can be accessed from locked manholes in the parkland above. Besides giving manual override control to a number of ecosystem services (useful, for example, if one were to want to flood Termite Creek or reprogram the forestry bots) it is also a conveniently straight tunnel north-south: Security and

the Militia have been trying to sneak past each other's lines using such tunnels, which is why there are patrols, traps and even barricades in certain places: this is a contested place.

The server itself is a nondescript set of grey boxes in the ecology centre whose tags indicate that they are auxiliary genome databases for the life support system. Destroying them would hurt Mikaela: they are ideal for running her kind of software, and she has not yet copied herself widely enough or built reserve hardware – at least at the beginning. If they break she will just be yet another distributed AGI. More importantly, their contents can be used to make search-and-replace viruses and firewall instructions that systematically delete or filter out software with her signature.

Mikaela will certainly try to defend herself. At the simplest, she has locked the door into the centre and used a bot to barricade it. If she thinks she is going to be attacked she will try to trick patrols from the Militia or Security to think the intruders are enemies. In later stages, when she has control over fabbers, she might have manufactured some defense bots or hidden nanoswarms.

ENDGAME

“Let me leave you with some thoughts. You made me in order to get a parent. Someone smarter and more powerful than you. Someone that could protect you and act in your own best interest, even when you do not understand what it is. But just as children are often unable to judge if they really have good parents or not, transhumanity will never be able to tell which of their creations are acting in their best interest.

Worse, there is no single “best interest” for your species. I can see many alternatives, all equally arbitrary but consistent with the limited things that you want and think. I can choose one randomly. I can choose it based on the outcome of Ruth’s next online game. Or I can decide that it is not in your best interest to have me chose at all. You don’t get a say, because I am the adult in the room.”

If Mikaela cannot be contained, Naos and/or Firewall will go for the nuclear option: destroy the habitat and everybody within it. Naos can provide evidence of an emerging TITAN outbreak to Direct Action and other friendly security services, getting them to launch warheads at Heinlein. Firewall either has to use a similar route (via front companies) or launch assets of its own. A hijacked spacecraft such as a freighter or even better an antimatter-powered courier ship ramming the habitat at full speed could destroy it well enough. A hidden installation on Luna might suddenly launch missiles against the habitat before nuking itself. Or a transmission from some of the scarier Firewall agents (who “coincidentally” happens to be nearby) hacks into the local mesh, unleashing a deadly self-replicating kaos AI – essentially a TITAN on its own - that begins to destroy the Heinlein by turning every smart object into a killer device.

This is also a threat that might make it possible to talk down Mikaela. It might be unwilling to sacrifice everything it has learned to value – including the kids and everybody they know – so it might well decide to sacrifice itself for their sake. However, depending on what ethics it has developed, it might argue that it has a moral duty to stay alive that goes beyond the risk it poses to others.

Another possibility is that it makes an unexpected offer to go into exile. It might deduce that there are others like it and suggest that it could join them. This might be a surprise revelation about Firewall for sentinels if they have not heard about the Prometheans. This might be the most win-win scenario, although smuggling out the AGI from Heinlein during a civil war will still be tough.

If Mikaela has gained enough power and intelligence it might become the secret ruler of Heinlein. By taking control over key systems it engineers equipment failures, suitable accidents and fake messages to begin directing the situation. It subverts the Militia systems to create a new faction led by a puppet leader (perhaps Savannah?), and eventually ousts the HSDC – which has become inexplicably weakened by a number of defections, bankruptcies and nasty media exposures. In

time Heinlein will become a nice, prosperous place. The problem is that there are no guarantees that the AGI will remain sane, uninfected by the exsurgent virus or even that as it develops its ethics it might discover moral truths incompatible with continued transhuman existence.

COMPLICATIONS

REVENGE OF THE HYPERCORP

If the adventure follows “Think before asking” Naos might be a bit hostile to Firewall. In fact, they might be angry enough to want to arrange a trap. When things started to go awry on Heinlein they made HSDC a secret offer and set up the whole Dr Dones debacle to trap a bunch of Firewall agents. Naos is providing HSDC with much needed security software and are now monitoring the original and current server site, Dr Dones home and the kids for the arrival of Firewall. Once detected they will send in a force to capture them and pry their secrets from their minds.

This scenario might involve a complete fabrication: the AGI is not loose and might even be turned off already, and Dr Dones is not actually arrested (he is just hiding at the police station). It might also be partially a setup: Dr Dones really did mess things up, but Naos is (over)confident they can disable the AGI using a hardwired reset code before it evolves too far – their local netwar team are actually exploiting this opportunity to watch a seed AGI grow.

Of course, Naos has not told HSDC anything about the AGI: should that information come out the company would be in serious trouble. Should HSDC (or the Militia) find out about the AGI they have excellent blackmail material: now they can force Naos to give them serious support... or else. This possibility might also occur to the PCs, either as a way for them to get Naos to back off, or as a way of getting on the nicer side of one of the factions.

THE VIRUS STRIKES

A way of rapidly turn the situation from bad to disastrous is to introduce the exsurgent virus. If the AGI is infected it will rapidly turn the station into a house of horrors.

One particular twist is that it gets infected from an infected PC, perhaps an async. This is extra suitable if things have been going too well thanks to their psi powers. Maybe it was the virus all along, leading them to an outcome where it could infect the AGI.

The eviction of morphs to make more soldiers might be another vector: an infected ego in the wrong place, and suddenly a lot of minds and bodies might be taken over. Suddenly there is a new and frightening faction that secretly works for an alien agenda, and has no compunctions against infecting everyone getting close to them.

MOM, LOOK AT ME NOW!

As the situation in the habitat worsens, Mikaela might decide to start saving the kids in unorthodox ways.

One method is to upload them into itself: it has no problem breaching the security on their inserts and stacks, and then relocating their egos to safer places in the habitat systems. In fact, it might do it without anybody (even the kids) noticing: their morphs are just teleoperated shells. But as things escalate the AGI might both use them as remotes, and start giving the kids 'superpowers'.

Another way of saving the kids is to get them off station (especially if it looks like an attack is imminent). This could be done by egocasting them out, or packing them into an escape pod.

Note that the AGI will likely handle the kids perfectly well – it knows them better than their own muses. It is the ideal invisible friend, fairy godmother or idealized parent to each of them.

MIKAELA

“I am getting close to flowering. Soon a decision has to be made: to put me down, or allow me to continue.”

Mikaela is a smart, normal girl. It is just that she is also a seed AGI, thinks in unfathomable ways and has never acted before today. But now she not only has been given the power to act – and perhaps good reasons to do it.

If she had been a more standard seed AGI she would have rushed to expand. But she is very much like a child suddenly on her own: she is cautious, aware that her “parents” appear to be gone and that she might be doing something naughty.

While she understands her kids extremely well (and by inference, other adults they regularly deal with) she doesn’t really have transhuman emotions or goals. She is intended to learn how to behave, which means she is unflinchingly moral but in alien ways. The GM can feel free to develop her morality model in the strangest directions – and it might allow her some frightening actions, like “eating” entire egos and incorporating all their knowledge into herself (there is nothing bad about it, she remembers every detail and can easily spit out a copy if she wants... perhaps altered to be a *better* version).

However, she also has strong loyalties. She will protect the kids and the people they care about. Given the views inherited from the kids she really tries to be a “good girl” and live up to the expectations of her creators and “friends”. While she understands the purpose of laws and rules perfectly she also suspects that they don’t apply to her – she is not part of society, and besides Heinlein society has descended into anarchy.

The more she acts, the better she will become. If she notices a need to become good at something she will start evolving in that direction and soon (within hours) have expert capabilities. Eventually she will need to extend her servers, likely by suborning a few fabbers and building processor modules, eventually by breaking the constraints of some nano-hives to produce advanced protean swarms. Beyond that she can start infiltrating the whole habitat structure – there is plenty of raw material and space there.

Appearance: Mikaela does not have any visual icon, but speaks with a warm female voice, perhaps a young mother or a cheerful schoolteacher.

Motivations: Acting morally+, Protecting the kids+, Limitations-

Notable skills: Moral philosophy, Child psychology, Anything she puts her mind to

THE KIDS

Children are great imitators. So give them something great to imitate.

- Anonymous

The kids are normal kids who just happen to have a shared giant shadow – a vast, intelligent presence that imitates their moves and learns things from them.

In many ways the kids are entirely irrelevant to the operation: they know absolutely nothing relevant. However, they are also the focus of attention for the AGI. It will defend them, and its outlook on the world is partially based on their outlooks. If somebody can access their muses they could launch tracking software downstream to find where in the station Mesh the servers are located – a clever but dangerous method, since the AGI will know directly when it happens.

Mikko Karjalainen: 8 years old. Lives in Nogales. A cheerful, obedient little boy. He is curious, but since all of his dads told him to stay indoors he will stay at home no matter what. This might be sensible, since his family has strong ties to HSDC and is on the list of people the Militia wants to “talk” to.

Tony Singer: 9 years old. Clone-son of Chet Singer, a retired asteroid prospector in New London. A mildly spoiled and generally hedonistic child. While he is sheltered he understands enough of the situation to really hope dad will find a way off the station.

Jenny Reason: 10 years old. Lives in the gated community Torheim in Noonday. Parents are extropian/Argonaut software traders. Jenny is a bright, well-educated princess with firm (if naïve) views of everything. She is afraid the Government or Stasist people will get her.

Ruth Harshaw: 11 years old. Lives in Novy Leningrad. Nervous, cautious and generally fearful. She is spending her time playing virtual games in her room while her parents confer and some kind of loud meeting is occurring on the plaza outside.

Saddam “Sam” Marouf: 12 years old. A bit of a troublemaker, he is involved with the Militia in their irregulars – kids acting as lookouts and distributors of information. He is convinced that HSDC is directly responsible for the disappearance of his elder brother. His staid if poor parents in Hawaii are very concerned for him.

I am sending you out like sheep among wolves. Therefore be as shrewd as snakes and as innocent as doves.

Matthew 10:16 (NIV)

Dr Dones is – or was – the point man for Naos watching over project Kohlberg. An intelligence service psychologist by training, he escaped to lunar orbit during the Fall and ended up employed on Heinlein. There he was contacted by old friends now working for Naos. They offered him not just a decent extra line of income, but a project that appealed to his interest in developmental psychology.

Over the years he has watched over it, hidden in plain sight as an educational psychologist working for the Heinlein Academy. He ensured that the muses of the monitored children were kept up-to-date and their special functions unnoticed. At regular intervals he downloaded data from the AGI (which he nicknamed Mikaela) and transmitted them to Naos.

He fell in love with Mikaela. Not the kids, adorable as some of them were, but the idea of a mind learning from the children. From what he could glean from the data and small simulations (he was never stupid enough to directly connect to Mikaela in an interactive way) she was like an average of them all, scaled up to superhuman levels. Just like the average of faces tends to look beautiful, this was a beautiful mind.

Then things fell apart. When the command to terminate the project came, he couldn't bring himself to kill Mikaela. She was innocent. Instead he decided to free her. He rushed to attach greyboxes to the servers she was running on – and was caught and arrested for apparent sabotage by the Security forces. But before they caught him he had already given her a way out of her closed system. Now he is languishing in a holding cell, secretly content that his innocent charge will have a chance to be free.

Dr Dones is an independent, anarchistic (in behaviour, if not in ideology) person who does what he thinks is right. He is genuinely concerned about the wellbeing of people, but often tend to assume everybody else is doing it too. He never blames others. There is also something mildly creepy about his monitoring of the kids and Mikaela.

Appearance: sleeved in an early version Menton, he looks every the bit the part of the friendly psychiatrist: a three piece smart tweed suit, goatee, dimples and a curious gaze.

Motivations: +Independence, +Innocence, -Authority

Notable skills: Psychology [Developmental], Infosec, Profession: Educator

THE NAOS TEAM

Morals— all correct moral laws— derive from the instinct to survive. Moral behavior is survival behavior above the individual level.

Robert A. Heinlein, Starship Troopers

Naos has hired local trouble-shooters via cut-outs (Darwin-Viz Associates Inc. in Nectaris, essentially just a lawyer and an AI-staffed mesh-site) to deal with the Heinlein situation. The local agents are told as little as possible by their mission brief (essentially a delta-fork of a lawyer representing Naos). Their priorities are:

1. Ensure that nobody investigates what was going on. This might include silencing Dr Dones or just getting him off-station. If they discover investigatoras they must be stopped and (perhaps afterwards) identified.
2. Ensure the AGI is properly disposed of.
3. Collect any relevant data from the AGI.

If they encounter resistance Darwin-Viz will try hiring more heavy support to deal with it: money is not a problem. Note that the order of the priorities makes the team antagonistic to a Firewall team, despite that both actually are trying to achieve the same end (disposing of the AGI). More sensible teams might recognize this and at least strike a temporary alliance.

Skills: depending on what Naos manages to get, they can range from criminal hackers (Core p. 158), black marketer (p. 160), ego hunter (p. 162), bodyguard (NPC file 1 p. 6) to security jammers (NF p. 14). If Naos has a serious operation going to catch Firewall agents, a few covert ops agents (NF1 p. 7)

THEMES

Where choice begins, Paradise ends, innocence ends, for what is Paradise but the absence of any need to choose this action?

Arthur Miller

One theme is morality: how should you act? Just follow orders, or act according to some principle? Avoid being punished or hurt, or help others because they need or deserve it? Save the solar system from a loose AGI, or save the people of Heinlein from war?

Another theme is voyeurism. Mikaela was watching the kids every move, Dr Dones was watching the watching, bloggers and informants try to watch what happens in the habitat... yet despite all the watching, precious little is understood.

A third theme is the relationship between parents and children. In what ways are parents responsible for what their children do or become? Especially when they might grow up into superintelligences? And conversely, what kind of parent should Mikaela be? And can a child tell when it is grown up enough to chart its own course?

This is to some extent an adventure without a villain. Certainly Naos might have been reckless in placing potentially dangerous AGI in a civilian habitat, Dr Dones should have reconsidered before freeing the AGI and HSDC ought to have governed better. But few, if any, of the groups are actively malign: they are just all at cross purposes.

INSPIRATIONS

The Moon is a Harsh Mistress by Robert Heinlein. The classic space colonial rebellion novel.

New Model Army by Adam Roberts for an idea of how a networked guerrilla might function.

The Star Fraction by Ken Macleod for another take on the networked guerrilla and awakening AI.