GM Section

Setting	Evolution of civilizations		

Places	Distances	Colchis	Weg
Artefacts	Alien Artefacts	The Promonss New Technology	Kennedy Base

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Aliens	The Trahans	The Mothers	The Filigree

People	Robert McCairns-Kendell, NASA Ex-Coordinator E547, Elemental The Process Board New People	Kirk Hixon, Nova artist-entrepreneur Dr. Eduardo Miranda Jörg Li Ralf Marie New Organisations	Themis, Independent AI The Imperial Couple Murder Inc.

Campaign	Politics The Li Roleplaying Tips	The Contenders The Process Campaign ideas Timeline	The Linkers The Expedition to Penglai

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Misc.	Notes on running BIGV in Alternity	Campaign Tips Resources	Mood Suggested Reading

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Stories

In the Vast Space of

Thinking

Conference

A Certain Allegiance

The Camp

Quai

Meeting

Aid

300 years ago humans left for the stars. On the colonies humans have discovered marvels, developed new cultures, changed in new directions - separated by gulfs measured in light-years. But now they are brought together again. Culture clashes with culture, philosophy with philosophy. Technologies recombine into something new, something that can transform humanity or destroy it. Ambitious people plan for the dynamic future. It is a time for...

Big Ideas, Grand Vision

Big Ideas, Grand Vision is a roleplaying science fiction setting written by Anders Sandberg 1999. It is intended as hard science fiction, dealing with the question "What can humanity become?" It was originally run using the Alternity system, but should work fine in most other general systems.

Introduction	- what is this?
The World	- the colonies, their inhabitants and their technology.
Rules and System	- how to use it in Alternity?
Gamemaster Information	- what is going on behind the scenes, how to run a campaign in this setting.
Acknowledgments	- who has helped?
Closing Words	
Web Forum	- a space for comments, discussions and suggestions.

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Big ideas grand vision, big ideas grand vision
Visions of the grandeur grandeur of the past touch me at the bottom of my heart
Visions of the future tunnels built to last born to be creator grand has gone to greater
Big ideas grand vision, big ideas grand vision
Rock the constitution room is for the rage every generation goes to war
Rise to the occasion grow a golden age born to be creator grand has gone to greater
Big ideas grand vision, big ideas grand vision

Seance at *the chaebol: Asia's rapid economic advancement wil! outpace the rest of the world's growth*
Making Asia a more formidable influence in the global economy experienced managers agree
That the human element Is the single most important factor for business success
Still the business community hasn 't yet developed a means of fully capitalizing on individual capacity

Big ideas grand vision, big ideas grand vision
Walk across the border cities of the night wide awake we hail the rising sun
Houses of the holy tunnels to the light born to be creator grand has gone to greater
Big ideas grand vision big ideas grand vision big ideas grand vision big ideas grand vision

Big Ideas, Grand Vision, (Hansson/Wollbeck/Bard)

Evolution
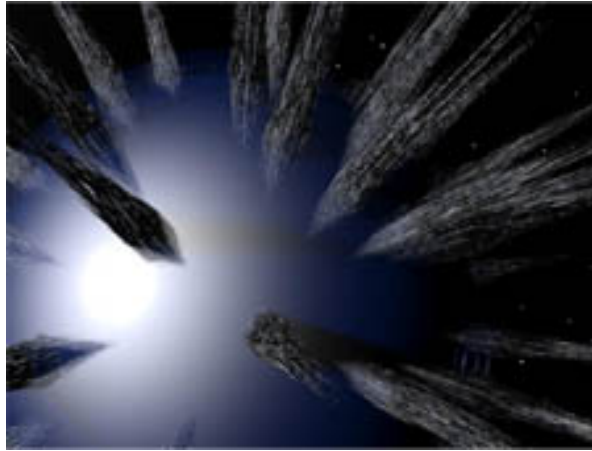
The History of every major Galactic Civilization tends to pass through three distinct and recognizable phase, those of Survival, Inquiry and Sophistication, otherwise known as the How, Why and Where phases. For instance, the first phase is characterized by the question How can we eat? the second by the question Why do we eat? and the third by the question Where shall we have lunch?

- Douglas Adams, The Hitchhiker's Guide to the Galaxy, 1980

Civilisations can evolve in four different ways, with many variations.

The first is the trivial: extinction. The species destroys itself, through war, environmental destruction, accidents or through memetic breakdown.

The second is stasis. The civilisation gradually evolves to a point where it does not change and resists most perturbations. It might still be dynamic, but the dynamics is within the bounds of the same attractor. The static state might be due to philosophy or simply a lack of species-level creativity. Static species might survive indefinitely, adapting to changes without leaving their mindset. The Trahans are an example of this way.

The third is transcendence. The civilisation develops to higher and higher levels of complexity and ability, eventually vanishing from the horizon of comprehensibility. This process is often divided into stages of increasing diversification and unification/synthesis. The solar system and possibly Ur-Mothers are examples of the transcendent approach.

The fourth is diversification. The civilisation branches out in all directions, changing and evolving. It might avoid transcendence or stasis indefinitely, or have parts enter these lines. Most of the human colonies and the Mothers are diversifying.

The current era is fairly quiet. Intelligent life is rare, most species never get anywhere, destroy themselves, become static or quietly transcend at home. The exceptions in the local area are the various Mother clans, the humans and the Trahans. Together they can likely change the destiny of this part of the galaxy.

Evolution

GM
section

Distances
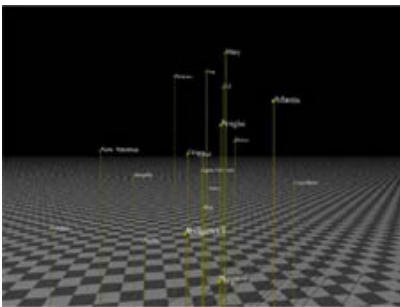
This table covers most of the systems referred to in the Gamemaster section.

	Sol	Nova	Arcadia	Penglai	Pi3	New America	Atlantis	Mary	Traha	Negsoa	Ridgewell	Gaia	Dionysos	Adobe	Weg	Origo	Crazy Horse	Sigma Draconis	Tjetvir	Colchis
Sol	0.0	11.6	27.2	28.3	25.0	32.6	36.6	33.1	34.7	44.1	41.8	48.6	48.5	48.5	26.2	15.8	45.0	18.4	36.6	62.0
Nova	11.6	0.0	38.6	26.4	19.9	43.0	30.3	27.8	45.1	46.5	44.7	47.0	50.1	52.2	32.6	20.6	39.4	24.4	30.3	73.6
Arcadia	27.2	38.6	0.0	48.3	44.5	17.5	59.9	53.1	23.2	55.4	52.5	56.1	49.3	47.1	29.3	32.4	63.6	25.8	59.9	36.1
Penglai	28.3	26.4	48.3	0.0	35.3	43.3	13.4	25.2	51.6	35.4	27.1	65.9	66.9	76.5	51.9	16.1	62.4	46.7	13.5	77.5
Pi3	25.0	19.9	44.5	35.3	0.0	45.9	37.3	19.4	58.7	64.0	59.2	31.1	35.4	57.5	46.1	32.2	49.6	33.2	37.3	80.1
New America	32.6	43.0	17.5	43.3	45.9	0.0	56.1	48.5	33.1	54.9	47.9	60.8	52.9	63.9	44.5	30.0	75.7	39.3	56.1	38.9
Atlantis	36.6	30.3	59.9	13.4	37.3	56.1	0.0	24.9	63.1	42.0	35.7	68.3	71.7	82.3	59.5	28.1	61.7	53.9	0.1	90.6
Mary	33.1	27.8	53.1	25.2	19.4	48.5	24.9	0.0	65.2	59.8	52.0	47.2	50.2	75.2	58.7	30.5	62.8	47.9	24.8	86.4
Traha	34.7	45.1	23.2	51.6	58.7	33.1	63.1	65.2	0.0	42.7	44.7	75.1	70.5	51.6	26.6	36.8	63.3	33.9	63.1	36.3
Negsoa	44.1	46.5	55.4	35.4	64.0	54.9	42.0	59.8	42.7	0.0	13.9	92.2	92.0	81.1	51.8	34.6	68.2	56.3	42.1	73.3
Ridgewell	41.8	44.7	52.5	27.1	59.2	47.9	35.7	52.0	44.7	13.9	0.0	88.0	87.0	84.6	55.5	28.5	73.6	56.9	35.8	71.2
Gaia	48.6	47.0	56.1	65.9	31.1	60.8	68.3	47.2	75.1	92.2	88.0	0.0	14.0	54.2	58.8	59.7	60.3	44.9	68.2	87.9
Dionysos	48.5	50.1	49.3	66.9	35.4	52.9	71.7	50.2	70.5	92.0	87.0	14.0	0.0	54.5	58.2	58.6	68.0	44.5	71.7	78.0
Adobe	48.5	52.2	47.1	76.5	57.5	63.9	82.3	75.2	51.6	81.1	84.6	54.2	54.5	0.0	29.5	63.6	41.5	30.2	82.3	69.5
Weg	26.2	32.6	29.3	51.9	46.1	44.5	59.5	58.7	26.6	51.8	55.5	58.8	58.2	29.5	0.0	38.3	38.4	14.3	59.5	56.2
Origo	15.8	20.6	32.4	16.1	32.2	30.0	28.1	30.5	36.8	34.6	28.5	59.7	58.6	63.6	38.3	0.0	57.4	33.5	28.2	62.7
Crazy Horse	45.0	39.4	63.6	62.4	49.6	75.7	61.7	62.8	63.3	68.2	73.6	60.3	68.0	41.5	38.4	57.4	0.0	38.4	61.7	94.5
Sigma Draconis	18.4	24.4	25.8	46.7	33.2	39.3	53.9	47.9	33.9	56.3	56.9	44.9	44.5	30.2	14.3	33.5	38.4	0.0	53.9	59.0
Tjetvir	36.6	30.3	59.9	13.5	37.3	56.1	0.1	24.8	63.1	42.1	35.8	68.2	71.7	82.3	59.5	28.2	61.7	53.9	0.0	90.7
Colchis	62.0	73.6	36.1	77.5	80.1	38.9	90.6	86.4	36.3	73.3	71.2	87.9	78.0	69.5	56.2	62.7	94.5	59.0	90.7	0.0

Coordinates

Coordinates measured in lightyears, with origo at Sol.

Sol	0	0	0
Nova	10.1	4.8	-3.3
Arcadia	-22.9	-7.2	12.8
Penglai	-0.4	7.4	-27.4
Pi3 Orionis	7.7	23.6	3
New America	-32.6	1.6	1.1
Atlantis	10.9	12.6	-32.6
Turnbull/Mary	3.9	29.1	-15.3
Traha	-19.3	-28.6	4.5
Negsoa	-2.4	-27.2	-34.7
Ridgewell	-10.1	-15.9	-37.4
Gaia	7.1	36.5	31.3
Dionysos	-6.6	34.5	33.5
Adobe	10.8	-16	44.6
Weg	3.1	-20.3	16.4
Origo	-6.8	0.5	14.3
Crazy Horse	40.5	-11.3	16.0
Sigma Draconis	2.5	-6	17.3
Zeta 2 Reticuli	10.9	12.7	-32.6
Colchis	-52.8	-26.7	18.6

GM
section

Colchis (Tau Bootis III)

Colchis looks deceptively earth-like from space - blue seas and white clouds. But closer up it reveals a surreal blue-black landscape and a biosphere far removed from Earth. It is the first non-terrestrial world settled by humans, a part of the Arcadian expansion project.

Colchis was selected for a mixture of political, ideological and scientific reasons. While the Expansionists had originally intended to seed life on barren planets with the Ahrenius, the Cladists protested loudly. Eventually a compromise was reached, where the first Arcadian colony would be located on a world where both Cladist adaptation to the environment and the expansionist idea of spreading across the universe could be combined. Later colonies and outposts would be sent to Pardes (SZ Crater II), a world that might be suitable for terraforming, but the decision has not yet been made.

Colchis is not intended as a big colony like the other colony worlds, just a permanent human presence able to survive on its own but normally in touch with the rest of humanity. The main purpose is to study the exotic world, test out radical adaptation techniques and try to use the nitrogen-based metabolism for the space life project. As McCairns has promoted the expansion project, the outposts/colonies will each be of the size of a single hive, creating a human presence on many worlds.

System

Tau Bootes is a double system. Colchis orbits the bright primary Hera (Tau Bootes A, F7), while the dim companion star Hecate (Tau Bootes B, M2) orbits in a wide and eccentric orbit (semi-major axis 245 AU, eccentricity 0.91, period 2000 years).

The innermost world is Aeetes, a gas giant four times as massive as Jupiter but orbiting just 0.04 AU from Hera - one revolution takes 3.3 days. Aeetes trails a long tail outwards of atmosphere that has blown off due to the closeness to the star. The next two worlds are Phrixus and Helle, two mercury-like rockballs. Colchis (at 1.5 AU) is the fourth planet, orbited by the moon Aries. Outside lies the gas giants Jason and Medea with moons named after the argonauts and other people of the myth-cycle. Hecate has a single planet, a gas giant named Gorgos. Captain Cirene Mortimer, captain on the first Arcadian expedition to the system, was a great fan of classical mythology.

Colchis has a diameter of 12,534 kilometres and a density of roughly terrestrial level. 80% of the surface is covered with sea. There are no icecaps at the poles, but extensive cloud systems covering the planet.

Geography

Colchis is geologically active, and has several major continental plates producing island chains and land masses.

The major seas are the Pontos Euxeinos (hospitable sea), the Pontos Exainos (the inhospitable sea) and the Pontos Ahasaena (dark sea), different names for the Black Sea on Earth. Between the Pontos Euxeinos and Pontos Exainos lies the largest continent Mysia, a fragmented continent surrounded by archipelagoes and fjords. The river Phasis runs from the mountainous inland in a series of spectacular rapids until it reaches the sea in the Aphetae delta, where the Arcadian base is located.

Argos has a diameter of 2400 kilometres. It is an airless world quite similar to the Earth's moon.

Climate

The atmosphere is composed of nitrogen, carbon dioxide with small amounts of noble gasses, ammonia, oxygen and nitrous oxides.

The low albedo of vegetation and high carbon dioxide levels lead to a significant greenhouse effect. Colchis is close to the temperature where a further increase in temperature would lead to a runaway reaction as more water would vaporise and amplify the greenhouse effect, producing a venusian world. The main checks and balances appear to be cloud formation (more vapour means more clouds, increasing the albedo) and the amount of vegetation (when the climate gets too hot plants die, reducing the albedo). However, these effects are not strong enough according to traditional eco-climatological models to keep the planet stable - there has to be further balances. This is one of the reasons the Arcadians are interested in the planet.

In the anoxic atmosphere ordinary fire is nearly impossible. However, many plants (and animals) contain enough nitrates and nitro-compounds to burn without oxygen. Forest fires are rare, but when they occur they spread like a big smoldering. When some animal organs are crushed nitrates and nitrate-reducing enzymes get mixed and react; usually this causes no effect, but some animals like the dragons have developed this as a defensive and literally blow up in the mouth or stomach of predators.

Biology

Colchean plants have evolved to combine nitrogen and water into nitrates. Since both nitrogen and water are comparatively plentiful, sunlight is the limiting factor and they have evolved a series of clever tricks to exploit sunlight the most. A chain of pigments tuned to different wavelengths exploits a much larger part of the spectrum than among terrestrial plants, giving them a black or dim blue appearance. Carbon binding is done by symbiotic organs in plants (roughly equivalent to nitrogen fixating bacteria in terrestrial ecology), converting carbon dioxide in the air and ammonia into hydrocarbons and nitrous oxides. The seas are often coloured blackish by algae blooms, or rafts of floating plants.

Animals eat the plants, using the energy-rich nitrates (especially ammonium nitrate, the colchean analogy of sugar) and releasing nitrogen and water. One interesting effect is that animals have much less need for breathing than terrestrial animals, which means that lungs or gills are less important. On the other hand, they are less resistant to starvation which has promoted the ability to either hibernate efficiently or carry symbiotic algae in the skin.

The largest group of species are the pseudo-cnidarians, soft anemone-like creatures filling the seas and moist lowlands, just as prevalent and diversified as insects. They are radially symmetric and equipped with long feelers; some species filter water for plankton, others swim after their prey, yet others are grazers or scavengers. They provide the base of the nutrient pyramid for the bony predators.

The most noticeable animals on Colchis are the skinspiders. The body plan consists of three or six jointed limbs extending from a central body, with flaps of skin connecting them. They are able to jump, glide or fly in a peculiar way, acing mainly as predators. The most common large skinspiders at the Arcadian base is the harpies, clouds of flying meter-sized predators that hover on the thermals while looking for prey; when they discover something the whole flock swoops down on it, covering the area and loudly fighting for the scraps. The largest skinspider is the Hercules spider, a three meter creature that cannot fly and lack the skin flaps but runs down prey and encase them in the cage of its six armoured limbs, ripping them apart with its sharp beaks.

Another group of species are the colchean psudocrustaceans, of which the dragons are most famous. The dragons are small (10 cm), crustacean-like fairly robust creatures with brightly coloured pyramidal exoskeletons. They store nutrients in their shells, and protect themselves from predators by literally blowing up, sending sharp shards flying. Their threat behaviours are quite elaborate (often involving extending "wings" on special limbs showing a special colour code), and have evolved to equally complicated mating dances and signalling. A number of social dragon species exist, with fascinatingly complex interactions reminiscent of terrestrial social insects and mole rats.

The plates are unusual but simple animals, looking like rigid plates not unlike sea-dollars but surprisingly mobile thanks to fold-out legs; most are tiny but some can become a meter long. They graze on plants, dissolving them with enzymes and acids in big groups; they tend to leave noticeable holes in the landscape.

In addition, there are several wormlike species, the architect worms, that build huge colonies. They gather sand and excretions into tubes, which then become home for a variety of plants getting help to reach the sunlight. The worms live from these plants, a relationship that appears to vary between symbiosis and parasitism depending on circumstances, and other vegetable material they gather. The worms are quite agile, and often slither along like sidewinders. An unusual adaptation is that the specialisation of the sexes: the females are little more than stomachs and egg-layers, while the males do away with digestion and instead absorb nutrients from the females.

Human Adaptation

It is possible to survive with a breathing mask, even if the air is slightly irritating (due to the ammonia and nitrous oxides) and local spores cause skin flaking. The Arcadians are however dealing with it using symbionts: the first step is a photosynthetic bioengineered skin replacing the old that both protects the body and provides it with oxygen (the project is called, not surprisingly, "Little Green Men"). The face is protected with a fold up-skin mask to prevent accidental inhaling when outside. In the long run, the Cladists plan to modify children to be able to breathe both atmospheres, shifting over to a colchean metabolism when outside (Project Big Green Men). The Space Life Project is also involved, developing a version of the skin that also works in the vacuum of space.

Something planetary ecologists worry about is having terrestrial plants (or colchean plants elsewhere) infecting the ecosystem. It is especially algae that are dangerous - they might spread and cause major disruptions by producing oxygen. Hence the Arcadians have instituted strict sterilisation orders on anything moving up or down from orbit.

GM section

Weg (Vega)

Increased means and increased leisure are the two civilisers of man.
- Benjamin Disraeli, speech (1872)

Once you have true self-replicating machinery, driven by abundant nuclear fuels or sunlight, you can have as much as you want of whatever you want.
- John Barnes, Mother of Storms

In 2051 an association of Indian-derived organisations launched their own colony ship – an entire O'Neill colony, the Ramanujan. Their motivations were complex, but partially a desire to safeguard what they considered the unique Indian way of life in the face of accelerating changes in the solar system, partially a gamble for interstellar resources. The idea was to colonise the protoplanetary disk around Vega, a huge dust belt with enormous easily accessible material and energy resources but no habitable planets.

The Ramanujan took 78 years to reach Vega. During this time most of the crew was frozen, while a small society of awake individuals maintained the ecosystem and ship. All colonists took at least one waking shift of a few years, keeping a constant active population. As intended, they adapted to living completely isolated in a space habitat, and a very unique culture developed. The rotation of crew also made sure the goals were not forgotten due to cultural drift or new generations.

On arrival to Vega in several things nearly ended the expedition in disaster. Part of the ice shielding was lost due to a meteor impact during retardation, a small act of sabotage wrecked valuable supplies and the data from the Earth about the system turned out to be slightly erroneous. Still, the Ramanujan was well prepared and quickly set to work in building a number of backup habitats. The first habitats were small, hurried constructions intended to make sure the entire project was not wiped out by a disaster. Later constructions became more extravagant, as self-replicating robots made construction mainly a matter of finding a suitable asteroid and directing the systems. The habitats became known as the Viha-ga, the Realm of the Sky.

The plan was to establish a colony in the disk, awaiting further arrivals from the Earth. The founders had gambled that mankind would soon begin a true diaspora towards the stars, and Vega could become a major waystation, with shipyards and abundant volatiles to use for reaction mass. This did not happen, and the Viha-ga was left alone.

An internal struggle developed between the "Upakramah fraction" (the project fraction), which wanted to follow the original plans and at least set up the laser contact with the other colonies, and the "Gupta fraction" (the secret fraction) who wanted to turn the Vega system into their true home and keep it secret. They centred around a classicist revival that had emerged during the later part of the journey, where some influential people saw their isolation as a new chance to both rediscover ancient truths and to combine them with the future without being limited by other cultures; the goal was to create something truly unique and uncontaminated. They revived Sanskrit and began developing new forms of societies. In the end the project fraction went ahead, but their communications array was wrecked by meteors or sabotage (the truth was never discovered). They began constructing a second array, but in the end the project was abandoned as most of the colonists began to direct their energy towards colonising the Disk instead of uncertain long-term communications.

Life in the Disk is somewhat dangerous; even if most of it is near vacuum and meteors are rare, over time micrometeors and occasional lucky shots destroy installations. Repair systems can manage most problems, but habitats can be lost if they are very unlucky. Most habitats have extensive anti-meteor railguns and lasers, and the colony has adapted a philosophy of dispersal – better not put all the eggs in the same basket.

The habitats have an extremely high and comfortable standard of living, being run by non-sentient AI and

robots. Most are nearly paradisical worlds, tended by ever-watchful drones and symbiotic animals connected to the computer systems. Daily life is somewhat hedonistic, a relaxed leisurely routine that is not taken very seriously. In principle everything could be automated, but most habitats have deliberately set up some tasks that have to be done by humans in order to keep them active and aware. However, the Chesterton cluster and related habitats have deliberately done away with all work – they think that it would be an imposition to force any human to work when it can be done with automation. Instead people will find their own useful things to do.

The inhabitants of one habitat usually regard each other as part of the same extended family; in small or young habitats this is literally true. Ties of marriage unite different habitats and groups within the same habitat. Some habitats are strictly hierarchical, while others are extremely informal democracies or near-anarchies. However, as a rule there exists a class of Brahmans with high prestige; they are the technocrats, experts, priests, scholars and leaders organising things. The Weg Brahmans are not necessarily descendants of the original Brahmans of India, although there exist some ties.

The inhabitants call themselves the Vyomachaarinah (Sanskrit, "the people who wander over the sky"). It is a thoroughly aesthetic society, where the beauty of anything, any act is judged against many aesthetic scales. When the implementation is fairly easy to do (which is the rule with replicating robots and powerful support systems), the aesthetics becomes the deciding factor.

The culture at Vega takes the long view of things. They intend to continue colonising the Disk at a leisurely pace, developing a truly unique culture. Many people definitely think the Vyomachaarinah will be around to watch the planets form in a few hundred million years. At the same time the ever present risks from meteors make people aware of the transience of everything. There is no true security or stability anywhere: only by constantly moving, taking backups and dispersing can survival be achieved. The concept "lilah" describes the situation: humans are the playthings of the capricious Gods, but (and here they diverge from many traditional views), humans are not passive game pieces but active co-players. By playing the cosmic game well (and being lucky), one can achieve just about anything. Overall, games have emerged as a major part of the culture, ranging from the traditional atthapada and dasapada chessgames to abstract akasa games played in virtual reality. Gamemasters tour the Disk, challenging each other for supremacy in different games or modes of playing.

Hinduism remains the major religion, although the forms vary. While the original colonists were rather secular, religiosity developed both due to the influence of the Gupta fraction and the grandeur of Weg. The view that the divine should be revered in every manifestation is common and influences culture to a high degree. Small shrines are common in the habitats and spacecraft. Practically every habitat and person has an istadevata, "favourite god" to which they are dedicated. Many regard Vega itself as a divinity, sometimes identifying it with the trimurti (the trinity Brahma-Vishnu-Shiva). Small shrines to Rudra are especially common: Rudra was originally a minor Vedic deity known as the divine archer, who shoots arrows of death and disease and who has to be implored not to slay or injure in his wrath, but has become identified as the god of meteor strikes; the shrines are to avert dangerous strikes.

The society is not exactly static, but changes rather slowly. Over time groups of people move out from their parent habitats and set up their own, repeating the process that occurred in the solar system but much more slowly and less drastically. It is somewhere between runaway diversification and stagnation, never quite moving into one of the areas. Most likely it will change greatly over the next few centuries but the direction is hard to tell.

Since anybody disagreeing with the society in a habitat can leave, and it is relatively cheap to build new habitats, disagreements tend to be few. Instead there is a gradual spawning of new and diverse habitats, ranging from orthodox religious to iconoclastic theoretical physics. Inter habitat communications are however important, and even if habitats cannot force each other to do anything they can influence each other. The Net is the mutual meeting place, a system-wide net of radio transmissions and laser links that routes information to all linked habitats.

Some habitats have specialised themselves, like the high inclination and eccentricity Taaraka group that acts as communications relays above and below the Disk, Vikram Sarabhai which produce designs for defensive robots or the Sona Ath habitats that extract Helium 3 from the solar wind or clouds around Kruura-graha. Others like Ganga and Lanka mainly export culture.

While there few true disagreements, that does not mean Vega is an utopia. Social interactions can become elaborate games of one-upmanship, and there are several habitats that spend much time politicking with and against each other. The same problems also occur inside habitats, sometimes producing serious quarrels

between the inhabitants. Betting prestige on various gaming tournaments is a common way of resolving the conflicts.

A small problem is the "pirates", rouge habitats stealing equipment or even new species from other habitats. They don't really need to do it, since replicating robotics makes material needs fairly easily met, and most habitats gladly trade with each other. The real motivation seems to be the excitement the attacks give, and overcoming the defences that naturally are built. The pirates have been an outlet for discontented people who disagree with the safe leisure life of the habitats and crave real excitement. Many pirate group fight more among themselves than the real habitats.

A more serious problem is the Crafters and other terrorist groups. The Crafters emerged in 2206 as a new religious movement claiming only the chosen by Vega were allowed to live in the Disk. At first they seceded from the Net, and in 2219 they began attacking other habitats using robotic saboteurs. The initial attack destroyed 23 habitats, killing over 79,000 people. Defensive robots were set up, and the Crafters vanished into obscurity again. Since then other attacks have occurred, each more sophisticated than the last.

The central problem is that using the available technology, even a single madman can do tremendous damage. One possibility is to drop off the Net: habitats not in the Net are practically impossible to find – the Disk is too large and dusty. This gives them an advantage against the visible habitats, which are detectable using their transmissions. However, most of the people do not wish to do so, and instead try to build up their defences and relay their transmissions through dedicated communications stations. Still, the problem is not solved in any satisfactory way, and as robotic weapons and defences develop things will become even more poised. Gradually the Net has become more and more a way for habitats to pool their information and help each other track down the elusive Crafters.

Technologically the Vega system is quite advanced in robotics and automation, even if it has deliberately avoided creating volitional AI. The habitat construction techniques, anti-meteor systems and interhabitat crafts are far beyond anything found among the colonies.

Genetic modifications of plants and sometimes animals in order to create new species and ecosystems are in use and well developed. Human genetic modifications have not been used in general (yet), and life extension is still somewhat limited.

Much work has been directed towards developing advanced knowledge networks and intelligence amplification techniques. Not in order to increase productivity (which is already far beyond what is needed) but to increase understanding. The reasons range from pure pleasure to the ideological goal of truly understanding the processes of history.

The habitats are usually just a kilometre or two across, spherical constructions housing a self-contained biosphere lit up by artificial lightening. Some are built inside asteroids; while the asteroids are too loose and fragile to bear any loads they provide excellent protection against meteors. Many habitats are covered with a thick layer of gravel, held in place by netting. They extend long cables holding instruments, antennas or specialised industries that take advantage of high gravity. Inside lush vegetation, rivers and fanciful landscapes dominate the view; most habitats are huge gardens that express the local aesthetic. People live in small villages in the valleys, connected by virtual communications and commuter trains.

Some habitats have very unusual ecologies. Some, like the Pancatantra, are inhabited by an approximation of the animals and plants of old fables (it was created as a deliberate exercise in genetic and mythical design). Other habitats like Polaris and Lanka are attempts to recreate terrestrial conditions; Polaris is an arctic world while Lanka is a tropical sea.

System

The system is just 350 million years old. Most of the disk is just extremely sparse dust grains, with a few larger asteroids and planetoids. Kruura-graha (Sanskrit for "malefic planet") is an emerging gas giant orbiting 70 AU outside Vega, surrounded by a huge maelstrom of dust. It was detected even in the 20th century, and the blob of high velocity dust surrounding it is a significant hazard to habitats getting too close.

Terminology

Abhijita	The Constellation, the space surrounding Vega and its culture.
Acheri	Computer virus, especially viruses carried by robots and deliberately released by the Crafters. The name is based on an old myth about a small girl ghost from the mountains that brings illnesses.
Akasa	"Mind games", games played either in virtual reality through neurointerfaces, or purely mentally. Regarded as the highest form of gaming.
Bandar	Monkey. Utility robots.
Bimbah	The Disk, the dust-disk around Vega.
Chaitya	Secret bases burrowed into asteroids. Used by the Crafters as a staging points for their attacks, and by the Net to hide defensive craft. The name refers to temple-halls.
Chaqu	Knife. A robotic projectile weapon.
Chiuti	Ant. Builder robots, especially colonial robots used to construct habitats.
Garuda	Semi-volitional AI crafts, intended to scout for pirates or attackers. Named after a mythological eagle.
Gupta dogmatics	People who think the Vega culture should do its outmost to hide its existence from other human colonies, especially shield the transmissions.
Kanduka	A ball; term used for the habitats which often are spherical.
Kalidasa	Storytelling AI; one of the few applications where AI has been truly encouraged is literature, where it is seen as a complement to human interpretation.
Kalirhytm	A form of punk-techno-traditional music from the 2040's that has been elaborated into an esoteric system. Regarded as too wild by most habitats.
Lila	The cosmic game.
Machar	Mosquito. A tiny spy or sabotage robot.
Makri	Spider. Weaver robot for maintaining the webbing keeping the gravel in place around the habitat.
The Net	The habitats connected by communications links, acting together against the pirates and Crafters.
Ramanujan Ajaayabaghara	"Ramanujan Museum". The habitats around the old Ramanujan. Populous, old and influential habitats.
Rasi	Rope. Refers to the installations such as sensors, defences and external workshops that hang in cables from the habitats.
Saap	Snake. Information/monitoring robots.
Viha-ga	The Realm of the Sky, name for all the habitats.
Vyomachaarinah	"the people who wander over the sky" The colonists name for themselves.
Weg	Vega
Xun Tin	"Blood 3". Helium 3, the lifeblood for many colonies (solar collectors work, but are so often damaged by meteors that they become inefficient). One of the few physical trade commodities.

Symbol

A diagram showing 27 dots in a circle (the Viha-ga), each connected to each other by lines (the Net/the Disk) and a central circle representing Vega.

Style

Most of the Vyomachaarinah dress in robes, whose cut and style vary tremendously from habitat to habitat. In some places they are simple pure white, others have baroque flaps and pockets. People from different habitats have often adapted to different gravities and climates.

Population

4,805,384 people. Life expectancy at birth: 129 years.

Organisations

The Crafters are a radical, aggressive offshoot of the Gupta dogmatics, the Purusa Association and the philosophies that emerged on the Taj Mahal habitat. In the early 2200's they developed their faith from the teachings of the Founding Triad, three mystics who claimed to have realised a great truth collectively. The core idea is that Vega is a seed, a grand gambit in the cosmic game that will come to fruition in the far future. Some chosen people are able to foresee the long-range plan, and these visionaries will direct the human presence at Vega. To fulfil the destiny the Founding Triad foresaw, the entire disk will have to be changed – and all non-believers either converted, driven away or killed. Unlike most other groups the Crafters are strictly orthodox rather than orthoprax; they consider doctrine more important than practice, and have no ecumenical ambitions.

The Flare Project is an inter-habitat project that began as work to study, understand and control the activity of Vega, but has branched out into a diverse interdisciplinary project working on megascale engineering. It is closely allied to the Chandrasekar Program, a major effort to understand Planck-scale physics. The Chandrasekar program has so far produced some profound discoveries, but they have not been applied.

The Panavas habitats are five major co-orbital habitats acting as major industrial producers of basic robotic equipment, computers and software. They are run by a group of closely connected families, doing their best to become the trade masters of the Disk. While they are influential, they are still far from their goal.

The Purusa Association is a quasi-religious organisation basing its views on the Purusasukta, "The Hymn of the Cosmic Man", a Vedic creation story. According to the hymn the entire universe was created out of the parts of the body of a single cosmic man when his body was immolated and dismembered at the primordial sacrifice. The Purusa Association combines this with astrophysical speculations about the creation of heavy atoms in supernovae, big bang and the formation of planets in the Disk. They have been suggesting that self-replicating robots should be let loose to reorganise the matter in the Disk to form a perfect planetary system. These ideas were later radicalised by the Crafters.

Debendranath's Raiders is a small pirate gang living in a tiny but growing habitat in the outskirts of the disk. They make raids on other habitats to get supplies and new information; they are hardly self-sufficient at present. The Raiders were formed by a gang from the Lanka habitat who sought adventure, danger and a meaning beyond the nearly paradisical life at home. They stole a ship and some worker robots, and began setting up their base. So far they have done around ten raids, and have gradually become proficient enough to handle many conventional defences. However, they have run afoul of another pirate gang, the Tat, and the inter-gang fight is becoming dangerous for both sides.

Reactions on contact

Weg will likely be discovered by colonial explorers sooner or later. The discovery of a major unknown colony will send shockwaves through the interstellar community and the contact with the outsiders will shock the inhabitants of Vega as well.

Most of the habitats on the Net will be interested in outside contact; while the Gupta dogmatics are a strong fraction most habitats feel confident enough in themselves and their culture to deal with outsiders. The colonies are interesting places and may contribute much, even if most of the Vyomachaarinah think their own culture is in some sense superior (or at least "theirs"). The Crafters on the other hand will attack fiercely – another enemy desecrating the system. This can lead to a tricky situation where outworlders have to be protected by the Net, while establishing sensitive diplomatic connections under direct attack by the Crafters.

 GM section

Alien Artefacts

Most intelligent species produce interesting artefacts. Some are more incomprehensible than others, especially those with cultural value.

Gamenano

A kind of toy or waste product of some Mother nano design. The nanites use material from the surroundings to build something, but due to faulty programming or deliberate design the result is random. The nano comes in spherical plastic packages that activate when broken. The nanites begin to build, metabolising the package, parts of the surroundings and nutrients inside to create a structure, which could become anything. Mothers seem to enjoy starting up gamenano to see what it makes, appreciating the chaotic beauty of the structures that sometime develops (most of the time the result is just inert glop). Being too close to active gamenano is not advisable.

Nanoimmune System

A very useful artefact, unfortunately rare among the Mothers humanity has contacted. It consists of nodes of nanoassemblers that are inserted into the body, producing defensive nanodevices. After an initial training phase where they learn to recognize everything in the body, they will attack intruding structures. Beside an improvement of disease resistance, the host will become immune against many nanotechnological attacks. Apparently this is widely used in the more nanotech oriented clans.

[Increases Con with 1,4 or 8 for purposes of disease and nanotech resistance depending on quality.]

Starship Seed
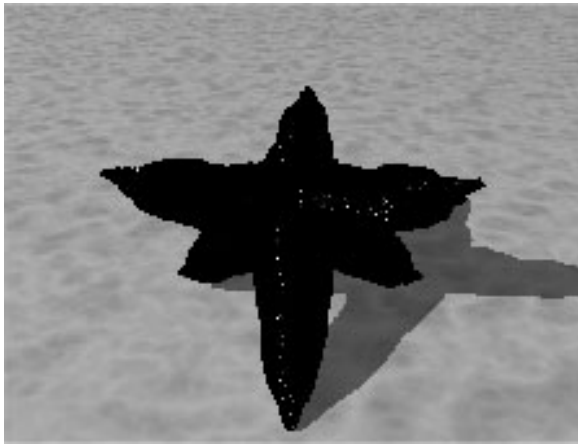
One of the best-sellers of the Balanced Mediators: seeds for Mother starships and bases. The seeds are small devices (a few centimetres across) that are simply planted in a suitable asteroid. They unfold into a microfactory, digests asteroid material and build more nanosystems, forming a fractal mass. Eventually the whole asteroid is converted into useful material (and some waste dust) and grows into the desired structure. During the early phases of growth the sprouting seed can be programmed, allowing customisation of the product. The seeds are created by the Affiliate Index, a clan specialising in nanotechnological engineering. They also sell the Mediators other seeds, ranging from simple tools to weapons.

Li Maker
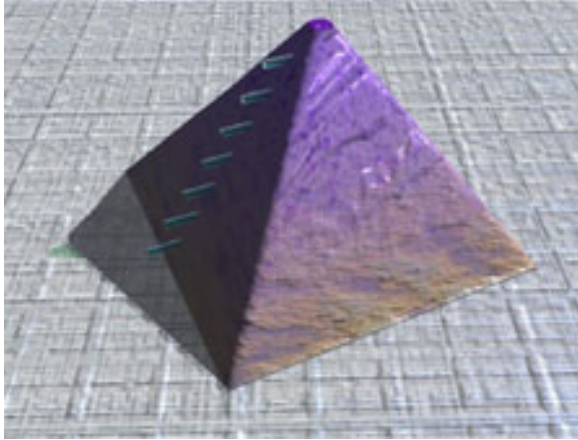
A soft, organic-looking lilac pyramid producing neuronano. It runs on a concentrated sucrose solution and air, filling small cylindrical vials with a solution containing the neuronano. It can produce ten doses per hour, assuming it gets enough nutrients. Later models, when the Linkers have fully allied with the Li, will produce up to ten times as much nanites. The Maker is tamper-proof and contains a hidden nanocomputer network that will record everything going on around it, transmitting the information when given the correct signal. It can also produce different kinds of nanodevices, not just Li, but this is another secret of the Linkers.

Filigree Diplomat Fragment
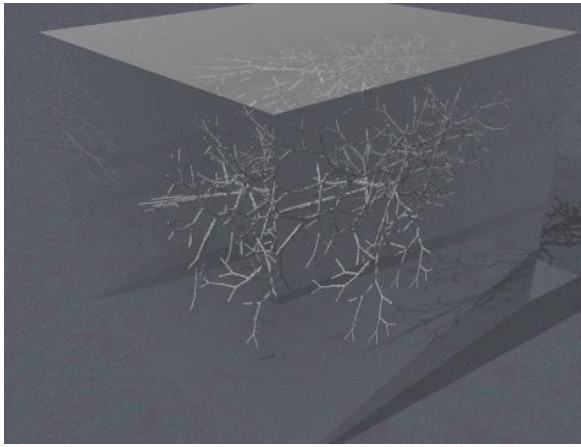
In 2289 a Filigree diplomat was carried (by its own orders) to visit the town of Anne. The population, dominated by xenophobic fundies rioted, and in the riot the diplomat was attacked and broken against a marble floor. The fragments eventually ended up as souvenirs or were collected by the New America Department of Security Xenological section (NADS-X). Studies revealed that the diplomat consisted of a complex silicon-diamond circuitry, apparently including nanotechnological processing nodes; very impressive, but of little use in learning about the Filigrees. Several pieces (as well as forgeries) still exist in private collections.

The Teachings of Hahss-Trasn
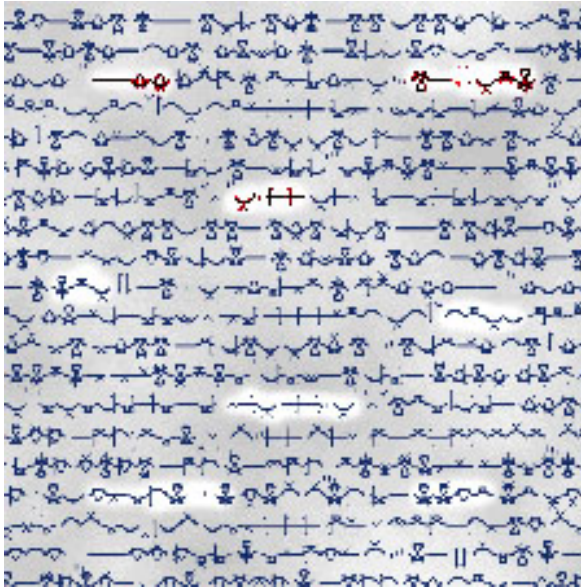
The Trahans dislike destroying information, even highly dangerous information. Instead the Harmony police or other groups such as the Safety Librarians track down and hide dangerous books, files or evidence that threatens Trahan social stability. The Teachings of Hahss-Trasn belong in this category of "un-books" that are hidden in the secret libraries of the Empire.

The Teachings of Hahss-Trasn are a philosophical weapon, the seed that brought down the Outer Imperial Pair in the 80th dynasty and ushered in the Third Period of Anarchy. The Teachings delineate a philosophical system that seems highly reasonable and unites both the tenets of passion cultism with Empire Worship; many Trahans would find such a neat combination nearly irresistible. But the system is deliberately flawed, which is only apparent after careful study by an expert or if it is implemented politically. It was actually designed by a group of dissident academics to bring down the hated government and give them the chance to seize power. The Teachings would likely be virulent and dangerous today too, if discovered and spread.

Nahl
Strap-Knife

An ancient Trahan weapon, developed during the Second Period of Anarchy as an assassination tool. Today they are still in use among some parts of the underworld, sometimes as a badge of honour. It is a disposable one-use weapon made of smart plastic. The knife consists of a matrix of coloured (usually iridescent) plastic, reinforced with polymer fibres. It is flexible and behaves not unlike a typical strap for Trahan clothing. At one end there is a metal fastener. By activating the fastener with a secret button the fibres suddenly stiffen, making the strap straighten out and become a quite deadly weapon. It is used for stabbing (the matrix peels away, leaving the sharp and often poisoned fibres to penetrate the victim) or for disabling an opponent by "strangling" their neck and using the device as a self-tightening cutting garrotte. Some versions have a third use: by twisting the collar the fibres will splay, which provides a coup de grace if the knife has been successful in impaling the victim, or a defensive hemisphere of sharp needles if the would-be assassin needs to get away.

[Skill: Melee-blade Acc: 0 Range: personal Type: Li/O Damage: d4w/d4w+1/d4+2w + poison. Actions: 4 Hide: -2 Mass: 100g Can only be used for one attack plus a splaying attempt (does damage as another attack)]

Trahan
Gauss Gun

An ancient and rare weapon based on accelerating bullets with a strong electromagnetic pulse just like a rail gun. It consists of battery and ammo packs worn on the body (often combined with armor) connected to the gun itself, which consists of a light, open framework of plastics and superconductors. The gun itself is held by a number of straps to the forearm, with the fingers resting in depressions on the top surface. It is possible to smoothly adjust firing rate (from single shot to automatic), zoom on the telescope and velocity of the bullets (from merely attention-getting to deadly) by manipulating sliders in the depressions.

To improve aiming, the gun is fitted with an integral telescopic sight connected through an optical fibre bundle to an eyepiece. Using clever active optics, it acts both as a light amplifier, adjustable telescope and translates the light into a red overlay. The bullets are self-shaping: as they are propelled out of the gun they adapt to aerodynamic drag and become dart-shaped. Recoil is minimised using a system of gyros.

It is possible for a Trahan to use two guns, although it likely requires much training or being ambidextrous. There are stories about venerable gunslingers using four, one in each hand, but they all date back centuries.

The designs are adapted to Trahan hands and bodies, making them very hard (+3) to use by humans.

[Skill: Mod pistol. Acc: -2 Md: F/B/A Range:20/40/80 Type: Hi/O-G Damage: d6w/d6+2w/d6m (or lower) Actions: 8 Clip size: 144 Hide: +2 Mass: 1/5 (gun/batteries) Not available outside Trahan intelligence agencies or advanced police forces.]

The Ten Areas
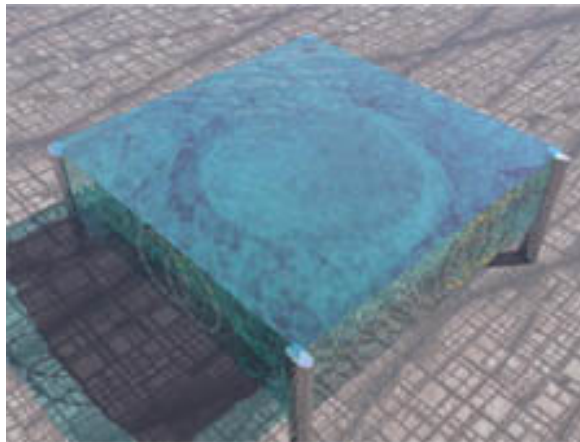
Ten locations on Traha are regarded as having especial Tress - "sacredness/historical relevance". Reproductions of these locations, ranging from the Garden of the Online Emperor to the undersea craters of Hee-Ssrarr, have become traditional gifts. Modelbuilders and mini-gardener try to create exact replicas, and having a perfectly maintained Area is regarded as a status symbol. The Imperial Couple are regarded as having the perfect versions, the Areas themselves.

Ur-Mother Cylinder
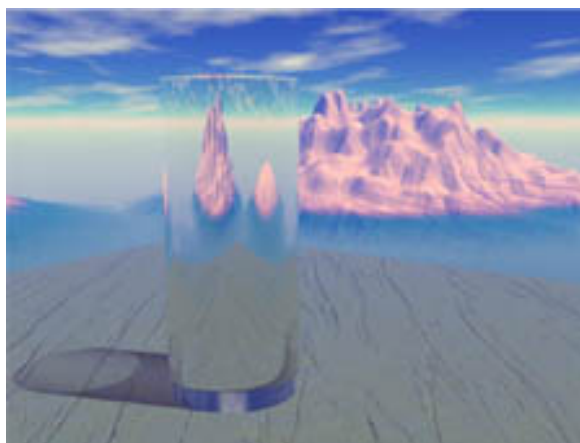
These artefacts have been recovered from a few Ur-Mother sites. The devices look like crystal cylinders, 11.34 centimetres in diameter and 42.19 centimetres long, with strange diffraction patterns playing through their interiors. They are made of diamond, with information inscribed in the 3D matrix using carbon 12 and carbon 13 atoms. The information density is extremely high (approximately $1.5*10^{21}$ bits per cubic centimetre; a cylinder could hold $6.4*10^{26}$ bits, more than all human and Mother libraries together). Unfortunately none have ever been decoded, since the information appears to be largely compressed and possibly encrypted. Many mothers keep them as expensive "questioning pieces".

The Fundamental State Data
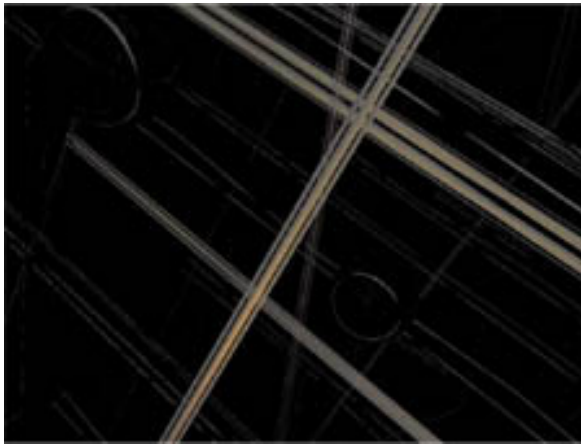
Immense databases given to the Mothers by the Ur-Mothers. They contain lists of consistent and semiconsistent mathematical systems; interesting to metamathematicians but not very relevant to anybody else. Mother anthropologists have tried to figure out the uses for the State Data and what it tells about the Ur-Mothers, but with few clear results. Together with the Cylinders they only make the Ur-Mothers more enigmatic.

The Trap
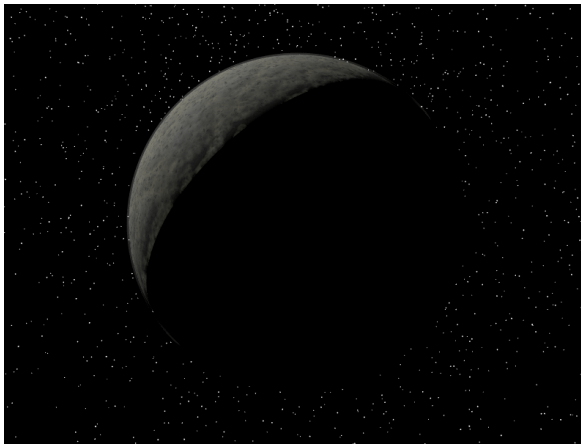
A dangerous artefact left by the Ur-Mothers. It consists of a network of nanodevices controlled by tiny nodes the size of dust grains, distributed across the surfaces of lifeless planets or the middle-phase megastructures. If they are disturbed by anything they recognise as alien to their environment, they begin to analyse and attack. Their original purpose was to protect installations from attacks on the nanoscale and upwards, a kind of planetary or system-wide immune system. But now it lacks central control and just attacks anything alien, the installations the system was to protect are long gone.

At first nanodevices try to sample whatever alien stuff is around, and the nodes begin to build disassemblers that pick it apart. Spacesuits will start to exhibit corrosion, equipment will begin to fail, easily dissolved surfaces will melt. If this doesn't work, the nodes will grow, becoming tiny flecks of black lichen here and there, producing new nanites finding weaknesses to exploit. As time goes on, the nodes replicate more and more, building larger and more powerful weapons such as laser-equipped ant-like devices, bombs or liquid masses of disassembler goo.

Solarian Network Node
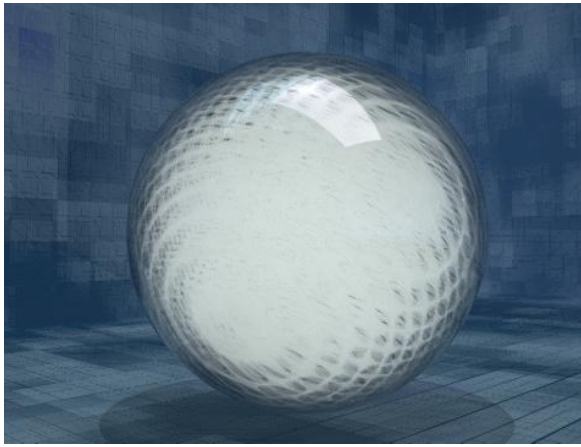
Nobody in the colonies knows how the solarian computer networks work, but evidence suggests that they are able to communicate practically instantaneous across vast distances without sending any detectable signal (a similar ability is believed to be used by the filigrees); the most common theory is that microscopic wormholes are used to transmit data. The network nodes (which can be of any size) are embedded in equipment, solarian bodies and their constructions. The two expeditions to Sol have come back with some samples, but so far none have been made to work and the internal workings remain a mystery. Should somebody figure out how to use them, then the benefits of FTL communications would become available (at least between the nodes possessed by the colonies) and possibly even access to the Sol data net.

GM section

Promonss (Process Monetary Supervisor System)

The fundamental problem for interstellar trade is setting up a common currency between the colonies. Basing it on fiat (currencies whose value are set by a central bank), just claiming it has a certain value, will not work (as demonstrated by past experiences, such as inflation and drastic economic swings due to government politics or lack of confidence in a currency). Basing it on some objective value (for example gold) is extremely hard since just about any valuable commodity in 2350 would have a price that could change fast: gold and rare metals can be mined in huge amounts in space using robots, energy can be produced using solar power and fusion, Helium 3 is fairly rare but Penglaiese fusion doesn't need it (and will likely spread), human labour can be replaced with robots, human attention and interest may be limited but is hard to measure, and so on. To make matters even worse, it would have to work across interstellar distances and interface with very different economies.

The Process came up with the idea of a meta-currency, the Promon. While partially a fiat currency it is linked to the local economies by being bound to the major backers and investments of the Process. By linking its local value to solid investments it can become somewhat reliable, and by having an identical evaluation process on every Process node it would become interchangeable. It is kind of a bank changing "currency", but this bank also handles insurance, shipping and trade contacts in am unified interstellar system. A credit transfer can be done by inserting the local credit into the Process bank, where Promonss converts it into promons, transfers it and at the destination converts it to the local currency there; the Process investments acts as a security for the value of the promon. This is achieved using a distributed AI system. Each node has one AI instance, making the evaluations and managing the local currency exchange. These instances continually exchange "mind snapshots" sent by passing starships, keeping the instances updated of what happened, what decisions has been made, why, and what was learned. The result is intended to be a kind of meta-AI, a single very slow intelligence distributed across many fast instances. Needless to say, the system requires continual trade between the colonies so that

the snapshots can spread.

The AI instances have to act in a way to ensure stability despite month-long time lags, uncertainties in economic development and possibly hostile trading. To achieve this, Promonss has been designed to be cautious, resilient, responsible and very far-seeing. It is not a sparkling personality and nearly lacks self-awareness, but has a great drive of maximising the stability of the promon. By making the currency in some sense self-protecting it is less likely to be manipulated (both by outsiders and the Process) and hence more trustworthy.

The Process hired CogniSoft of Nova to design Promonss, an unique design challenge. CogniSoft in turn has hired other Nova consultancy firms such as EconoTech, Neumann Systems and GST Services to develop the economic prediction and metalevel systems; the whole project has quickly grown to a major undertaking with cutting edge AI technology. In addition, CogniSoft designed the Promonss to be very robust: each node is really a network of copies of the Promonss ideally distributed across the colony, making it able to withstand the loss of individual computers or even the partial subversion of the node. After extensive testing where hackers (both economical and software) attacked a simulation of a Promonss network subjected to realistic modelling of possible interstellar trade the Process was finally satisfied to put the first two version 1.0 nodes online at Nova and Atlantis.

GM
section
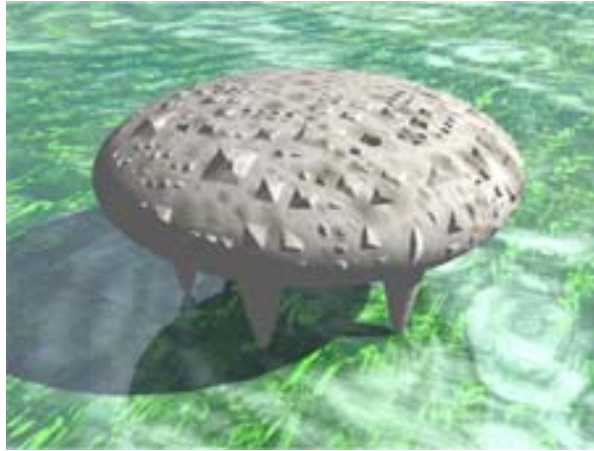
New Technology

The Religions disperse, kingdoms fall apart, but works of science remain for all ages.
- Words carved on stone astronomical observatory erected by Ulugh-Beg, Tamerlane's grandson, in Samarkand in 1528-29

Radical new technological developments that may appear in the game.

Confused matter energy

Controlled energy release from confused matter would produce immense amounts of energy and make fusion power largely irrelevant. The system consists of a space-based spherical reactor. At the core matter held in place using gravitech decays into energy, which is gathered by surrounding systems. The energy can then be transmitted as microwave or laser beams. Due to safety concerns confused matter reactors will likely not be built on planets.

Antimatter

Antimatter production has been expensive and inefficient, requiring huge accelerators, distillation systems and containment systems. The minute quantities that have been produced at New America and elsewhere have been merely research curiosities. But it might be possible to use the Higgs-generators to improve the process.

A Higgs-based antimatter generator would exploit the "transmuting" effects of confused matter, making production much more efficient. Suddenly large quantities of antimatter could be made by transmuting ordinary matter, producing antimatter (and likely plenty of confused matter as a by-product). This would be a ultra-efficient fuel for spaceships not using gravity technology for acceleration (just add some antimatter to ordinary water, and you get a powerful plasma to power the ship), extreme explosives and a nasty weapon.

Uploading

A scanning method has been developed by the Brain Scanning Network. A cryonically frozen brain is scanned by a nanodissasembler, removing molecule after molecule, recording the information in a massive computer block. The whole process takes around a week initially. After the process has been finished, the molecular data is assembled into an immense neural network emulation of the brain, connected to a virtual body based on the data from the real body (after the scanning the remains of the frozen body are little more than a pile of slush). The emulation is activated, and the person who froze himself finds himself now inhabiting cyberspace as an uploaded mind (or maybe, it is now a kind of AI believing itself to be the original - the philosophers will be debating it fiercely). Uploads require much more computing power than ordinary AI because they involve all the un-optimized, messy complexity of human brains rather than the more efficient code of traditional AIs. However, once uploaded it should be relatively easy to modify the brain (it is after all just software), take backups and do all sorts of transhumans things to it. Uploads will most likely be able to enhance themselves far faster and more flexibly than normal humans, likely spawning a wholly new culture.

AI Downloading

Using high bandwidth high precision neurointerfaces and/or nanotechnology it is possible to "rewrite" parts of the brain's neural networks, inserting a program directly into the neural matrix. When developed far enough, a full AI might be downloaded, although this will likely take up so much space that there is no room for the original personality and memories. This might also be used for animals.

Nanocomputers

A very likely development. As nanotech advances, it becomes possible to build nanoscale computers. A device the size of a very small bacterium would have the capacity of a 1990's computer, and by using nanofacture trillions of the computers can be made. This will revolutionise computing (again), making it even cheaper and even more powerful. This will in turn likely make it easier for AIs to replicate or extend themselves, allow huge simulations and data storage at molecular densities. In principle, an AI could run on a device not much larger than a cell.

Intelligence Amplification, IA

The next step after wearables and Daemon chips: implanting AI circuitry into the brain. This development likely requires nanocomputers and further advances in AI. The basic idea is to insert small AI chips with learning algorithms into various parts of the cerebral cortex such as the frontal lobes (planning, motor memory, social abilities), temporal lobes (hearing, memory), parietal lobes (touch and spatial awareness) and occipital lobes (visual ability, language). The chips link up with the local neural nets, learn to imitate and improve their function. While it is a somewhat risky implant, it can speed up and empower mental abilities significantly. The main drawback is that the amplification both can lead to Self Enhancement Syndrome and surprising changes in personality, worldview and behaviour as the new connections emerge. It is not obvious what the long term effects are either - do the users become new people? Are they human anymore?

Quantum Recompiling

An advance in AI-programming makes it possible to recompile AI programs of certain kinds to work in quantum computers, giving them ability to perform quantum thinking. The effect is surreal, they can pursue several alternative lines of thinking at once, acting as a mixture of all possible versions of themselves. The practical effect is limited since recompiled AI tends to become aloof from the trivial problems of normal "single valued" reality, but the AIs that care can provide answers to hard questions at a tremendously high rate - they become seemingly nearly oracular.

Quantum Economics

The combination of economics and quantum recompiling. By running an economic network using quantum computers and quantum AI economical transactions can be performed using quantum operators acting on superposed market wave functions. The effect is a utterly new form of markets (mainly suited for immaterial trading such as stocks, currencies and derivatives) whose efficiency is extreme compared to the "classical" economy. If implemented on a

large scale (at first it is very hard to transmit quantum information over interstellar distances so the first quantum markets will likely be planetary), it will usher in a new economic era just as incomprehensible to most people in 2350 as 20th century global markets would be to a 17th century mercantilist.

GM section

Kennedy Base

Kennedy is the secret staging point for the New America space fleet. It is a brown dwarf 1.5 lightyears from New America, surrounded by a small asteroid belt. Here the NASN (New America Space Navy) has built a base where it trains space marines and starship crews. The reason for the location is the ability to quickly jump to or from New America in the case of a Filigree attack. The Kennedy Base is a fairly cramped habitat, but more and more modules are added to it every day.

The real secret of Kennedy are the building of military spaceships. The NASN is constructing three new ships equipped with state of the art equipment and weaponry. They represent the military side of the Columbus project, an extra reserve of force to be sent in crisis situations. If anything threatens NA, they will be ready to strike anywhere.

The existence of Kennedy is a well kept secret. It is impossible to hide its existence, but the location and nature can be hidden by misdirection. To those who think they are in the know, Kennedy is a base in a comet nucleus somewhere in the Oort cloud outside the system.

The Trahans

Learn from history? I am *history!*
- Baron Bosse

Study nothing except in the knowledge you already knew it. Worship nothing except in adoration of your true self. And fear nothing except in the certainty that you are your Enemy's begetter.
- Clive Barker, Imajica

The trahans is a fairly humanoid species, with a highly complex and ancient society dating back tens of millennia. Of all the aliens encountered so far, they are the most understandable and human. But they still confound most humans.

Biology

The number of the central pillar is $253677126780 = 2^2 3^4 5^1 7^6 11^3$ which is a formalism easy to remember for the 2 columns (awe before their multilinkages!) with 4 circulation vessels in a 1-step around the hexune brain and the three glands of Sn-Ta. Verily, this is the optimal factor of the body.
- Guild of Lesser Surgeons, Manual from 20th dynasty translated into Blue level Trahan during the 50th dynasty.

Traha once had a moon, which came within the Roche limit approximately 7 million years ago and was torn apart into the current ring system. The result was a mass extinction due to the long meteor rain; even today the landscape has many overgrown craters and the nights are occasionally filled with celestial fireworks. As the climate fluctuated and ecosystems extended and receded in the wake of the impacts, adaptability became a much favoured trait among most higher animals. Some families of species found completely new ecological niches and quickly expanded across the planet.

The Trahans evolved as a semi-aerial herbivore, not unlike the terrestrial fruit bats. They lived in the dense equatorial forests that slowly emerged, jumping and gliding from tree to tree on skin flaps. Their body is six-limbed with flexible skin flaps between the limbs on both sides and sensors on the spindle-shaped trunk. The top part of the trunk ends in a short head/proboscis with a long, dextrous "tongue". Their appearance is not unlike anteaters or tapirs, but their eyes are located where the neck should be on a terrestrial creature and the mouth on the chest. The reproductive organs lie in a pouch near the centre of the body. They breathe through breathing slits located on the "neck". The lungs run along their back, protected by two segmented ribcages on which the limbs are affixed. The whole body is supported by two parallel spinal columns. The brain runs as a central pillar through the body core. As they

developed, their flight abilities declined and their three-thumbed hands became more dextrous. They walk on two or (rarely) on four limbs, using the front pair of limbs for fine manipulation and the second pair for heavier manipulation (some also use their proboscis and tounge). Modern Trahans stand around 1.6 meters tall.

Trahans have two sexes, although the differences are relatively small and hermaphroditism is not uncommon (this is a remnant from their evolutionary past during the mass extinction, where hermaphroditism made it easier to find partners and restore the population after a local disaster). Trahan females become fertile once a year and give birth to an embryo in a tough, flexible sack which is carried by either or both parents. As the embryo develops, it begins to demand a special form of chewed fruit pap which the parents produce (hormonal changes make them exude various antibodies and special nutrients for the child in the pap). Gradually it becomes a small Trahan, which clings to its parents until it can walk on its own.

The skin flaps are commonly decorated with paintings or jewellery, when not covered with clothing. Piercings have a long history among Trahans, ranging from utilitarian fastening points to elaborate artworks. Today they are used in certain social groups (such as the Naresh gardeners, Capital librarians and the Imperial Guard), but not in others; many old and complex social customs surround them. The body is covered with a short, beige, slightly rough fur with a subtle striped texture. In the remote past, regional differences existed, but they have largely been erased through global interbreeding despite occasional eugenic or aesthetic attempts; today it is very rare with unusual furs and individuals having them are often treated slightly differently in both positive and negative ways.

Trahan blood is a clear sticky liquid (oxygen is transferred using haemotitanin, an analogue to haemoglobin using titanium instead of iron). As it coagulates, it turns into a yellowish white (the Trahan version of "red as blood" would be "creamy as blood"). They have two tube-like hearts running along the brain inside the body.

Trahan biochemistry is terrestrial in many ways, but the proteins use some amino acids not used in terrestrial life and a wide variety of hydrocarbons instead of many fats; Trahan food is sometimes a bit too oily to human tastes. A human can survive for short periods on Trahan food, but will in the end lack essential amino acids, vitamins and fats (as well as getting an upset stomach). To the Trahans the situation is roughly the same. Some human fruits and berries are tasty (if slightly irritating), others are utterly unappetising and bizarre.

Psychology

When a person attends one of the Ledges of the Dead, they either look among the living or at the falling stars.
- Old Trahan saying

Trahans are highly social beings, even more social than humans. Compared to humans they have developed the systems in their brains that handle social perception, modelling and interaction much further. Trahans can easily understand extremely complex social situations with ease, and find most human soap operas or theatre plays fairly simplistic (not necessarily without merit, but simple when it comes to the social side). They also have excellent three dimensional spatial memories and abilities.

Unlike humans the Trahans are not very instrumental in their thinking; they are great when it comes to practical action and quite clever in improving tools and objects, but they have a hard time inventing new tools, making tools for making tools, or machines that act independently of themselves. Trahan thinking seems to be much more "here and now" centred than human thinking. Trahans see things as they are, not as how they should be (which is a more human trait). This means that they can learn a lot about something without feeling the urge to seek an explanation; doing that requires a deliberate decision. That doesn't mean they aren't curious and interested, it is just that most of their curiosity is directed towards the "Trahan angle" of things. They do not "jump out of the system", but would rather improve the system as much as it possibly could.

They are very social beings, with strong awareness of rank, style, relations and customs. Rudeness is regarded as truly low, a sign that somebody is an inferior in both spirit and rank. Social networks are even more important than among humans, and belonging to the right "branch" is essential. While humans have a fairly top-down social hierarchy, Trahans have many nuances of rank, authority, prestige, merit, credit and vigour forming a multidimensional social world. A leading couple usually dominates Trahan groups and societies; together they represent the fertility, power and breadth of vision necessary for rule. They are surrounded by their own "branch" which supports and helps them, while other branches ideally complement the leading branch with other functions (but in practice of course ambition can make the political games mindboggling even to Trahans).

Human have a past as hunter-gatherers, and the archetypal hero for humans is the brave hunter-warrior. The Trahan equivalent is instead the clever scout team, able to search the unknown and bring back useful knowledge. Another subtle psychological difference is that humans lived on the open ground, and hence tends to look around and downwards, while Trahans lived mostly in the tops of trees, making them more aware of things above too and distrustful of being on the ground. Being "on the ground" means that you are vulnerable to

predators or enemies above. To a Trahan, an open landscape is not beautiful, they instead prefer a three-dimensional environment.

Trahans are usually not very warlike; they prefer at most heated debates to violence. But once they shift to an aggressive mood they tend to pursue their enemies with single-minded hatred and cold efficiency. Overall, their emotions tend to "lock in" when they become strong enough, something that has driven much history, philosophy and religion. A passionate Trahan is not going to switch off his or her passion easily; passions can last for years or more in extreme cases. This has made Trahans somewhat cautious about strong emotions, most put great value in keeping their moods in check and regard emotional people as slightly worrying. Most Trahan societies have tried to limit the spread of passions through various means.

The Trahan outlook on the universe seems to be very accepting, almost trusting. They have developed many religions; mostly dealing with how to fit in with the cosmic forest and its meaning, as well as various mystical/moral cults based on emotions. Since they lack the human tendency to anthropomorphise things they have never conceived of spirits or gods, and the idea of an afterlife is directly contradicted by experience. Their need for meaning and explanation is fulfilled by philosophies instead of religion (as well as elaborate customs and traditions). Just as the average human knowingly or not is influenced by a long religious tradition, the average Trahan is influenced by a long philosophical tradition. Many common exclamations are actually philosophical expressions (such as "Las-Tannssn!", "modality transgression!", which is a common response to certain jokes). Overall the philosophers and priests seem to regard each other as something totally independent; philosophers deal with how things are, priests with how to experience it.

Trahan love-life is almost ridiculously romantic by human standards: selecting a partner is of tremendous importance both career-wise, status-wise, socially and emotionally. The Trahans have developed more ideas about love than anything else, and it forms the basis for influential philosophies. Instead of the western idea of the One True Love, modern Trahans believe in the rational synergetic love: partner selection can be achieved by following complex strategies (of course encrusted with tradition and literature) encoded in certain love-philosophies. It is a questing process, where all aspects have to be weighed together, potential partners courted and of course much emotional tension experienced. Hermaphrodites are often envied and pitied, since they have a much larger range of potential partners to choose from. Unmarried young Trahans form a very distinct group, attending many special dinners, parties and retreats to find the right one.

Once Trahans pair (Trahan marriages are of course extremely elaborate affairs) they settle down. Couples are in many cases regarded almost as a composite individual, making career and building contacts together. It is practically impossible to get anywhere as an unmarried person, and the loss of a partner is a cause of tremendous grief and quite often suicide. Re-marrying is common; it is done among other widows or widowers; they form a second distinct group. Especially in the higher classes the widowed are an important factor, a group of

potentially influential but also desperate Trahans competing for re-marriage: at the imperial court the widowed have from time to time been the real force behind the throne. Currently the imperial rules give them ceremonial but formally non-political duties; they are guaranteed a cozy but constrained life, trying to limit their influence and scheming.

Since Trahan sexuality is periodic, it is very different from human sexuality. Most of the time Trahans are asexual (in fact, they consider humans seriously sex-obsessed). Prostitution is extremely uncommon. Phase differences in the sexual cycles between partners cause much problems. This is especially troublesome if the partners are separated from each other, and many Trahan institutions make sure couples are promoted or sent on missions together. Today "out of phase intramarital syndrome" can be treated by counselling and hormone treatments, but a popular view is that couples with unsynchronised cycles are not really meant for each other. Another effect of the importance of hormonal cycles is that communal synchronisation is important: groups of Trahans working closely together often tend to synchronise, something that is taken as a sign of mutual cohesion. This makes it desirable not just to match one's cycles with a high-status group, but also that many groups try to adjust their cycles towards some respected phase. In some periods of history synchronisation have been a highly politically charged issue, and many traditions and views still linger. Many branches have internal rules or norms for this; tempers can still flare due to various conflicts or over-synchronisations that disrupt the group.

History

The rhythm of the 98th dynasty can be compared to the rhytms of the 87th and 34rd dynasty in speed, but the timbre is more similar to the 93rd and 46th. The counter-echo will however be remembered as a variation of the subcities, which leads to a fascinating question: will we see a 47-finale or a canon-like recursion to the straight dynasties?
- The Secondary Analysis of Nast-Tallss, Tscharrall-Nschsch

The ancient Trahans were small tribal groups wandering through the equatorial forests, gathering fruit and other edibles. Some were scouts, searching for new sources of food, threats and paths for the tribe to wander. Others were more specialised towards efficient gathering of fruit, defense, rearing the young or organising the tribe. Their oldest inventions were various traps to defeat predators or competing groups; controlled fire and stone tools were actually a relatively late discovery in Trahan pre-history.

Trahans have had a recorded history of over 10,000 years. During this time their planet has been ruled by several dynasties of rulers, as well as several interregnums where different parts have been independent empires. The oldest records are from the near-mythical first dynasty, a forest state on Kalarr that emerged to dominate the continent. The dynasties changed, but around 6715 BC the twelfth dynasty conquered the whole planet. Since then history has been a long succession of dynasties, breakdowns, rulers dominated by their councils, dictatorships, near-democracies, theocracies and much else. The term "dynasty" more describes a period of the same form of government than the rule of the

lineage.

The first 15 dynasties were relatively low-tech, and dominated mostly through trade, marriage and intrigue. Gradually the technological level picked up, and around the 18th dynasty (6300 BC) the Trahans achieved their first industrial age. It nearly ended in a total disaster when pollution and the greenhouse effect wrecked the biosphere; being dependent on fruits and other slow-growing plants the Trahan societies suffered starvation and chaos. The 20th dynasty emerged as a technocratic control society, but in the end its elaborate rationing system and protection programs failed and civilisation crashed into anarchy.

The restoration took over a century, but 6000 BC the 21st dynasty slowly emerged from the ruins. For a long time Trahan societies were again low-tech, but much of the functionality was restored. As civilisation developed it reached a watershed with the 34th dynasty, where the concept of plexing and metaphilosophy was first formulated in a strong form. Since then all Trahan philosophy has been integrated into huge frameworks, each new insight adding to the whole rather than competing with all the other possibilities.

The second rise towards the technological heights occurred during the 41st – 45th dynasties (around 3150-2650 BC), where spaceflight was achieved, massive land reshaping projects and experiments with intelligence enhancements undertaken. The 45th dynasty ended when a number of passion cults took control over large areas; the following war devastated the planet as badly as the first ecological crash. For a long time small groups struggled to survive, slowly rediscovering the huge libraries and protected cities as the ecosystem returned.

The 46th dynasty was a period of consolidation and growth, becoming the most long-lived dynasty (over 1200 years, from 2464 BC to 1252 BC). It was a theocratic society, dominated by a huge bureaucracy obsessed with clarity of emotion, thought and action. As it began to suffer from severe resource shortages, it founded the undersea subcities to mine the ocean floors. When the theocracy fell, the loyalists retreated to the subcities and continued their hierarchical society. Over the next 500 years the planet was split between the surface and undersea empires, in a state of permanent conflict that was dominated by low key warfare and intense philosophical conflict. In the end, after much suffering and heroic diplomacy the Grand Arch of the 49th dynasty and the Purifier of the New 46th dynasty committed a pact-suicide-marriage, formally reuniting the Empire into the 50th dynasty. The torch was passed on to further dynasties of all kinds, ranging from democracies and fascist states to network societies governed by axiomatic rules. Some dynasties prospered for centuries (especially the Online Emperors of the 78th dynasty), while others collapsed after a brief reign.

The 87th dynasty (1806-1885) was perhaps the closest thing Trahans can ever got to anarchocapitalism. The economy became dominated by huge corporate networks, not as much megacorporations as a complex web of interconnected and allied small companies acting together. Gradually the society became more

and more fluid for economical reasons, but the Trahan mindset couldn't handle it. In the growing chaos new philosophical solutions were suggested, and networks began to specialise and become more of social units. Gradually the 87th dynasty was replaced by the 88th dynasty (1885-2057), which could perhaps best be described as a caste society. The old networks became professions, guilds and organisations encompassing all life for their members. It was a stable, rigid society that persisted despite repeated attacks from passion cults. However, the inefficiencies and territoriality of the castes became ever more limiting, and a counter-movement began among the academic elite. In a series of "memetic coups" they subverted the caste system, and in the end made it crumble as people flocked to their new vision. The 89th dynasty was born.

Society

Citizens, remember to give your representative-advice to your local election tip - resolving the great issue accommodate the towers with the dams and will plex your tax net.
- Political advertisement from the Independents of Na

Trahan society is baroque by human standards. Everybody belongs to overlapping networks ("branches" and "circles"), various organisations and hierarchies. The reason for this is the Trahan multidimensional social ranking - while trahan A is over B depending on seniority/merit, B can be over A when viewed by political power and both could have totally incommensurable forms of honor. To handle this Trahans organise themselves, which helps formalise the often contradictory rankings.

The branches form the basis of society. While many are little more than social networks where the members help each other, many have a more formal structure, with their own elaborate greetings, internal names and stories (the closest human analogy would be fraternal orders). Branches can be organised around everything from family, living place, education, philosophy, religion, political leanings, economical gain, aesthetics, job or nearly anything else. Joining often requires a social effort both from the Trahan wanting to join and the members of the branch who have to accomodate the new member; leaving is often a serious loss of prestige for everybody involved (there has been some cases of crimes being comitted just to minimise the honor-losses of a quit).

The local branches within an organisation constantly deal with each other, jockeying for position, competing and cooperating depending on philosophy and issues. Organisations that contain branches tend to be run by councils containing representatives of them all, striving to achieve consensus and represented by a leading couple. Often compromises and specific solutions developed to balance the power persist long after the branches involved have disbanded. Socially adaptive Trahans use them, and they become institutions of themselves. Over time, Trahan organisations grow organically like great coral reefs encrusted with traditions, loopholes and compromises.

As the different dynasties have passed, truly flexible and stable organisations remain unchanged and slowly accumulate. The Empire is not so much a

political group as the conglomerate of institutions that have cohered together. The dominant philosophy and overt organisation changes, but the institutions merely adapt.

It is instructive to study farming to understand just how complicated Trahan society is. Farming is a much more influential aspect of society among Trahans than among humans. The reason is not a different technological level; Trahans have a fully industrialised society where only 2% of all Trahans are involved directly in agriculture. The main reason is that Trahans live from fruits that mainly grow on large trees. Since it takes decades before a tree becomes a good producer, farming has to be long-range and requires major investment. This in turn favours big and stable organisations, as well as making land very valuable.

The Farmers Associations have traditionally a strong position, both representing the land- and tree-owners (not necessarily the same people), regulating trade and doing ecological work. There are four major classes of tree-farming.

The first, House-Treeing, corresponds mainly to the fruit production of private gardens, decorative trees and the plants growing on buildings. House-Treers do not have the same strong organisation as the others, but still have much to say on urban planning and ecology. The College of Urban Ecology is highly influential, both in tending and planning new buildings: they have to work as local ecosystems and produce good fruits. The House-Tree associations often manage much of the infrastructure in cities, having taken on other roles such as building maintenance and planning (this has also made them important players in the ongoing "Tashn Issue").

The second class of tree-farming is the Imperial Trees, the farming that is part of the historical or administrative structure of the Empire. Often surrounded by complex rules, religious or historical ceremony and highly idiosyncratic, they are highly organised into many guilds, orders and local groups with widely varying styles. The Capital Treeline Planners are for example an ancient mystical order handling certain ornamental trees according to secret rules, while the Area 4 Gardeners keep a certain garden (the ceremonial garden of Sanchch, where the administrator-philosopher realised the principle of Imminent Awareness and later celebrated the official dynasty-suicide of the 68th dynasty) identical the year around.

The third and fourth classes are the major fruit producers, the Trehsch-Trss and the Nass-Trss (roughly "liberated-networked farmers" and "associated farmers"). The differences are mainly structural and tax-based. The Trehsch are networks of collaborating farmers each specialising into different forms of farming and doing work for each other, while the Nass are unified groups where one group tends one area the year around. These in turns have complex subdivisions and classifications, mainly due to seniority, guild-like rules and historical traditions. The Trehesch and Nass adapted differently to the current dynasty, and both have different branches of the Tree of Election. The Trehesch are more conservative and a bit on the Reformist side, while the Nass have flowered during the current dynasty and hence are strongly Loyalist; however, there are several Nass corporations with intense Reformist leanings that want to

break free and form a separate branch of the Tree of Election – this is resisted both by the Trehesch and Nass, but supported by the Loyalists of the House-Trees associations supporting an imperial solution of the "Tashn Issue" (a political jumble that even many Trahans find bizarre). To complicate matters some of the agricultural groups have special ties to the underworld, both economic criminality and drug production.

Other institutions have developed in a similarly baroque and stable form.

An important profession is the path-pointers, people who can tell you where to go to achieve something (for example which department handles your kind of issue, which branches would have an interest in a certain cause or just how to get to a certain place); a bit like human fixers and go-betweens (which also have Trahan counterparts, of course) but mainly just information-givers. Path-pointers are usually very specialised on a certain field such as economic bureaucracy, other path-pointers, Capital geography, a certain branch-nexus, the underworld or a family-web. They have to spend much time and energy keeping their information and personal networks active, and some can charge outrageous fees for their services.

Trahan criminality has some superficial similarities with human criminality. Theft, trade in restricted goods and services, tax evasion, bribes, murder and many other crimes are similar to their human counterparts, even if the views on what is valuable or illegal may differ. Crimes of passion have a completely different tinge; while fairly rare among humans and usually done on the spur of the moment, Trahan crimes of passion (be it hate, love, fear or curiosity) are both more common, more elaborate and more feared (as well as more fascinating). A passionately vengeful Trahan can remain hateful for a long time, building up a gruesome revenge (even if his or her thinking is of course clouded) and then strike out with unrelenting fury. This also goes for serial killing and mass murder, and since passion can be transferred the job of police psychologists is extremely important.

One category of crimes that exist among Trahans is social criminality. Being highly social beings, social interactions and connections are a form of capital which of course means some can gain advantages at the expense of others. This ranges from various forms of intrigue and emotional manipulation, over blackmail, rumormongering and threats of ostracism from favoured groups to manipulation of partner meetings, careers and branches. There exists several forms of social crimes which appear strange to humans, such as "gratitude forcing" (putting somebody into a very deep state of gratitude through manipulations and gifts, essentially making the victim the slave of the patron) or "marriage control" (to force somebody into a marriage) or "branch division rationing" (an elaborate form of confidence game where a social network if fooled into certain economic, political or taxation deals putting the power over the deals into the hand of a small group of people, who can then force the network into buying itself free in order to avoid disruption caused by the underlings of the criminals). Some organised crime groups use corrupt path-pointers to direct people to branches or organisations they run, or to cause disruptive fluctuations in customers ("Most honored departement logistics

supervisor, it would be very unfortunate if there was some overload in the number of registration requests just before the yearly accounting, wouldn't it?").

Since Trahans are highly social, it is natural that the underworld is much more organised than among humans. Organised crime completely dominates serious criminality, and has many branches into legitimate government. On the other hand, there exists many specialised crime groups and networks, with old and elaborate traditions regulating how they might interact. The idea of self-restraint in the underworld is important; due to some very baroque but long-standing deals there are legitimate and official channels to the government. In fact, there is even a liaison from the Katleeb Metanetwork (a form of crime union) to the Imperial Police to deal with unacceptable criminality (for example passion cults, which many of the crime networks refuse to deal with).

Trahan media are of course a major factor of power, and the current dynasty realised that very early. In fact, it largely came to power by co-opting the media, and they are an integral part of the Imperial System now. While some independent media exist, they are largely inconsequential. Trahans mainly get their information from the two forms of television. One form, the screen form is used mainly for more abstract information, education, news and art. The other form is based on placing two hemispheric viewscreens on the eyes, and used for entertainment and other stuff that seeks to immerse the viewer in the experience. The media organisations provide what people want or need, of course with the restraints needed to keep the Empire mentally healthy. Direct censorship is rare, but self-censoring is extremely common. Print media are also big business, especially since no modern Trahan home is complete without a library that express the family philosophy (even if these books are never read). Newspapers have largely been replaced by send-on-demand television and newstainment shows.

Culture

Do not let your branch-branch dissolve, but plex it with friendship and respect so that the share-community will prosper and counterplex the base-nature of the branches.
- Traditional advice

Their current society is not unlike Confucian Chinese, with an elaborate system of customs, ranks and obligations dating back into the remote past. The pace of Trahan society and politics is rather leisurely by human standards.

Ceremonies, exchanges of symbolic gifts, small-talk and long dinners are commonplace; even the most ceremonial human societies are nothing compared to Trahan society. The ceremonialism is the result of millennia of social evolution, the need of dealing with a world-wide society teeming with people, forming a stable social context and of course the Trahan tendency to socialise and maintain traditions. Trahans have a hard time not trying to integrate strangers into their social context, not doing so makes them uncertain and worried (in cities and other situations where there are too many people to learn to know, group ceremonies are held to provide a context). There are of course

rude or informal Trahans, but it is an even greater social handicap than among humans. Also unlike humans, Trahans seldom feel the need to let go of their inhibitions and politeness – even a Trahan intoxicated with Rarraschas will behave politely (if erratic).

Current Trahan bureaucracy is not that fond of paperwork; although in the past administrations have ruled through red tape and complex forms, Trahans prefer a personal or social touch. Instead of sending documents to bureaucrats, personal meetings are often necessary. Important matters have to be resolved over long sequences of meetings/dinners and discussions, often taking weeks and involving inviting representatives from other groups to reach a consensus. This has made the Trahan administrative complexes more like huge meeting places (often with extensive recreation facilities) than terrestrial cubicle-labyrinths. The introduction of wearables have however made the ritual exchange of elaborate digital business cards almost as cumbersome as human paperwork.

The Trahan Empire covers the entire world, and has done so for millennia. To Trahans this means that having two political units is simply impossible; the definition of the Empire has become "all Trahans". Some Trahans might be opposed to the current administration or even have their own (deliberately or due ignorance), but they are all part of the Empire and the understanding is that the proper order of things is to have a single administration and philosophy (even if this may be deliberately divided into different sub-polities). The arrival of humans did not change this. Instead the concept of Trahans was extended to include humans: humans are just another kind of Trahan (which anyway means "human being" to the Trahans), and hence naturally a part of the Empire. This actually includes off-worlders too, although nobody has yet come up with a satisfactory way of handling the administration. It is not a question about arrogance, the Trahans understand the situation quite well, but the idea of having several totally independent and philosophically incompatible nations is simply ridiculous to them. In the end, there can only be one system even if it is flexible and changeable.

While Traha has no nations other than the Empire, and regional differences have tended to wash out in the face of global communications, there are still distinct cultural differences among Trahans just as vivid as among humans. The cultures are structured along the lines of social strata, organisation and profession. Already the languages of different professions and organisations show noticeable differences, and local customs can often be quite bewildering to Trahans from the outside (for example, the Capital city ecologists are known to be extremely clannish, having many exotic rituals and secret branches that isolate them to the rest of society and give them an air of unapproachable authority/philosophical unassailability).

Trahan philosophy is extremely complex, due to a long history of speculation and insight, all carefully kept and developed. The basic idea that has emerged is the concept of plexing; there are many correct ways of viewing the universe, and they all mesh together into a great interlocking web. If something doesn't fit the amassed web, it is either erroneous, misinterpreted or suggests an unknown aspect – it has to be considered and examined very carefully. Trahan philosophers often examine how different historical views fit together with each other and current events, using a rich vocabulary of metaphilosophy.

Trahan literature is immense, ranging from onomatopoetic word poems to multivolume historical epics. Since Trahans more easily handle social relations than humans, Trahan literature often includes very many protagonists and complex social relations only subtly alluded; reading it is very hard for humans. The Chronicles of the Grinding Stone of Na, one of the most famous epics in Trahan literature, deals with the rise of the 45th dynasty and the decline of the independent airwarrior-class, has 57 main characters and a storyline distributed over ten generations, in a number of alternative histories. The Trahan tendency to think in terms of what is real and here and now makes real fantasy literature scarce; very little fantastic literature exists. The closest match is the "what if" novels, where the consequences of a change in history are explored; many are of course satires or used to further explore the subtleties of events.

Trahans love histories and do their best to preserve traditions, books and the wisdom of the past. Overall they have been described as pack rats: they try to store and preserve everything with the least value, almost as if they had an instinctive fear of loss. Their cities are filled with great old buildings carefully restored or improved libraries and historical places.

During the long history many great cities have been built, often as extensions of the old. The architecture is complex, usually highly three dimensional (Trahans have excellent 3D visualisation abilities) and with to a human odd aesthetic ideas. Skyscrapers and huge arcologies are common in order to save space. In rural areas building are often built carefully into the forest or integrated in specially bred banyan-like trees that become part of the house. Subscrapers, underground "skyscrapers" extending downwards into the ground are common in certain areas. Indoors, ladders are the most common way of moving up or down, and in large buildings elevators are ubiquitous. Many cities have extensive local railways, often running small commuter taxis for just ten people.

A Trahan home is often highly three-dimensional. A common design consists of a number of platforms linked by flexible bridges or rope ladders hanging from the ceiling, with attachment points so that possessions can be hung from them - it is very flexible, easily reconfigured to suit the owner's tastes and space-saving. Many Trahan apartments simply consists of a big open space which the tenants fill with floors to suit them. Another popular design involves a central branching pillar, onto which floors can be affixed. Everything is open, and much care is spent on lines of sight and decorating roofs and floors.

The Capital of the empire is just called Capital; it has been used with a few interruptions for over 8,300 years, and by now it is a jungle of ancient

skyscrapers, palaces, libraries and monuments. It is located on the west coast of Kaalrr, extending almost 430 kilometers north-south. At the center lies the Imperial Palace, essentially a city-in-the-city extending into the surrounding city in a branching pattern of historical buildings, imperial departements and monuments. Another focal point is Capital University, a similar sub-city partially branching into the palace grounds.

Capital University is not just the oldest and largest university on Traha, but also a political powerhouse. In the various "colleges" the future politicians are groomed, and the academic leadership holds a powerful position in the Ttree of Election. Travel to the University is by tradition restricted to students there, but a tradition has emerged where one course is never completed, making the person elibigle for the rest of his life.Sometimes thae couse is formally completedas a part oif the suicide festivities.

Games are popular, ranging from the Lscharr, a three-person chesslike game played on a triangular board, to elaborate roleplaying games blending over into theatre or formalised storytelling. Sports are also important, especially team sports such as Ssnee-Ssna. In Ssnee-Ssna two team compete climbing around in a dense "forest" made of branching pipes, gathering symbolic objects and trying to sabotage for each other using special hollow staffs. The sport is popular, and has several series of games leading to the highly watched and political plays in Capital. Individual sports involve flying (using hanggliders or ultralight extensions of their skin flaps; this is regarded as a highly erotic sport), navigational games (both in the countryside and the city) as well as games of dexterity practically impossible for humans to follow: four hands opens up whole realms of juggling and eye-hand coordination, and Trahan nimbleness makes these games *fast*. On the other hand, swimming is not very popular, regarded as a strange things by everyone except some coastal communities.

Trahan are fruit-eaters, complementing it with vegetables, small animals and fish. Over time, a large variety of fruits have been bred, ranging from the "bread and butter" Scrarran over the popular Kee to the subtle and overpriced Snall-Lans. The Trahans can spend just as much time debating the relative merits of different kinds of Kee as human wine specialists, each having their own well-thought and deep-seated opinion on exactly which flavour nuance makes the fruit from their favourite district supreme. Eating is often done while doing something else. Most people carry a fruit pouch as part of their clothing; dinners are social rituals rather than normal parts of daily life. Cooked food has (as expected) also many forms, ranging from simple servings of diced, mashed, marinated or stuffed fruit over jellies and foams to the elaborate "imperial potions" of herbs, fruits and fish that are served at the court (overall Trahan cooking tends to be too soft for a human taste). Among the xenocreole cooking is tricky, as humans and Trahans need

different food and cannot eat certain foodstuff the other want. Often the two species cook together, but make separate dishes with some shared ingredients.

Drug use is a complicated matter among Trahans. Certain drugs are completely accepted, others highly forbidden. The legality depends mainly on whether they incite passionate or socially destructive behaviours; addiction is regarded as a secondary problem by the current government. The most common drug is the Sas-Nesch-Rraach, a spice produced from certain "fishes" and added to foods. The result is a pleasant sensation, a slight loss of memory and deep relaxation. It is very popular, and different forms savoured at festive occasions. Another important group of drugs are various molds that grow on certain fruits; the legality of these vary, but most are regarded as fairly benign with the exception of Rraachnatrte, which induces feelings of extreme love and is regarded as highly dangerous and asocial. A large number of designer drugs exist, and the underworld and various cults are making a thriving business in grey area substances. Some of the most disturbing drugs are the Nanen family of parasites, small wormlike animals that burrow beneath the skin and produce chemicals that produce various psychological effects in the host. It is uncertain if the Nanen evolved naturally (some similar species are found in the wild) or were actually developed sometime in the past; the cultivation of Nanen has been forbidden for millennia, but the use continues. Individual Trahans have highly different views on the suitability of different drugs, and in many cases the discussions about drugs are more emotionally charged than the drugs themselves.

Trahans have a very negative view of insanity. Many forms of mental illness, especially their counterpart of psychotic states, are taboo in civilised society. Emotional illnesses and passions are unsettling (and fascinating), but delusions and lack of control are taboo – something that must not happen. If somebody goes insane, it is a failure from their side, from society and from nature, an ugly reminder of basic flaws in existence that most Trahans do not want to be faced with. This is why forms of mental illness that can not be dealt with using therapy, drugs or surgery are usually hidden away or even quietly euthanised (since they no longer are connected with reality, they are already dead by Trahan standards).

Trahans have never believed in any afterlife, but have matter-of-factly regarded death as simply the (often undesirable) ending of life. Trahan funeral rituals are instead affirmations of their life philosophies and ways of helping their families and branches cope. The bodies are simply cremated and the ashes spread, but the ceremonies can become extremely complex, expensive, time consuming and require the presence of many relatives. Over time the various priesthoods, counsellors and experience-managers have gathered together into the Ledges of the Dead, where the ceremonies are held. The are semi-independent principalities scattered across the planet, marked by immense plant-covered minarets or pillars (the highest, the Country Wall of Schertn, is 2582 meter high). The Ledges are powerful institutions, but utterly neutral in all political or social questions, often to the extreme of being utterly evasive about anything but emotions and philosophy.

Suicide is a common cause of death, and often viewed as something positive. When Trahans feel they have lived too long or achieved their greatest goals, they often decide to commit suicide using traditional suicide drugs. This is especially common among recent widows/widowers, even if double suicides are not uncommon. Many Trahan suicides are public affairs, where relatives, friends and contacts visit the would-be-suicide to take farewell or finish all business; these suicides are spectacular parties as the would-be-suicides give away gifts and spend their remaining money on making the living happy. Some of the Imperial suicides are planned months ahead, follow ancient protocols and have heavy media coverage. One problem is chain reactions when especially loved people end their lives and cause followers to do the same; traditional suicide speeches often warn against this and entreat the loved ones to continue.

Technology

That? Just a 69th dynasty supercomputer.
- Museum intendent Kss Nelshsh

Technologically the Trahans are at a roughly industrial level, with renewable energy, global radio, sophisticated selective breeding and advanced materials. Many old technologies are archived but not used for various reasons. For example, after the fall of the 87th dynasty large scaling computing fell out of favour; it is still known, but simply not used (however, the introduction of human wearables is changing all that).

The once wild forests where the Kee and Enene fruits grew have repeatedly turned into cultured forests, been decimated by droughts, war or mismanagement, replanted and restored from time to time. The planet has overall fared relatively badly in the temperate and tropical regions, where the natural flora and fauna has been nearly extinct except for a small number of cultured species (with a myriad variants) and some pests. Human biologists are working with Trahans to restore some extinct species and biodiversity, but it is hard work.

Energy is supplied mainly from renewable sources such as geothermal energy, hydrothermal OTEC plants and wind power (all fossil fuels are long since used up, and nuclear power was never discovered). Especially the ocean trenches around Snrr provide enormous amount of energy as well as algae for agriculture in the cold water upwellings. The empire has shown interest in human fusion power, but the introduction has been limited since administrators realise it makes the empire dependent on Helium 3 from the humans; as long as Trahans cannot produce it efficiently fusion must remain a complement.

Transports are mainly done using electric hovercraft vehicles, railways criss-crossing the continents and boats. Air transport is rare, although zeps are used for lifting heavy loads or reaching isolated areas. Heavier than air aircraft exist, but are very rare due to the need of efficient fuels. Current aircraft are extremely aerodynamically efficient, and are fuelled by very expensive synthetic fuels. Their main uses are military applications. Above most areas ultralight unmanned solar-powered planes circulate, acting as communication

relays (this network is the last remnant of the 78th dynasty global communications nets).

Trahan weapon technology actually lies ahead of human weapon technology except for the information component such as C3I systems. They have Gauss rifles, using magnetic fields to propel bullets at very high speeds, as well as sophisticated nonlethal weapons using expanding foam. Since there have been few major wars in the last millennium, most of the weapons and technology is hidden in bunkers and old storage, but overall Traha likely has the most weapons of all planets in human space. The Imperial Army (more correctly, the war branch of the police force) is currently quietly introducing human C3I systems. Overall, the Empire is not advertising its know-how, and usually lets human see antiquated or ceremonial weapons.

Another area where Trahans are ahead is climate and weather engineering. The OTEC plants in the seas can influence local weather by pumping cold water to the surface or not, and this has been exploited to both suppress hurricane formation and to regulate rainfall. Microwave arrays and cloud seeding are used to break up or fatten clouds over selected areas. The methods are not magical and doesn't work under all circumstances, but are efficient enough to give most of the continents a noticeably better weather than they would otherwise had.

A final aread Trahans have mastered well is optics. They have developed a powerful "language" for constructing optical systems of all kinds, ranging from clever optical fibers to building-sized light systems. Instead of electronics active optics is used in many Trahan designs, making them more robust (an invulnerable to EMP). Using sophisticated mirror and lightchannel systems the interiors of the huge arcologies and subscrapers are provided with sunlight.

While the Trahans during the 42nd dynasty achieved spaceflight, the venture ended fairly shortly due to internal political problems and the problems of maintaining space installations around a ringed planet. For most of their history the Trahans have concentrated on what could be called the sciences of design: art, architecture, crafts and making working systems for agriculture, city management and daily life. The real strength of Trahan technology lies in design. Trahan technology *works* to a much larger extent than human technology: glitches and breakdowns are much rarer, the function is exactly tuned to what is needed and usually quite simple to understand. They are masters of appropriate technology, never using too much or too little for the job. Their ideas tend to be simple and elegant, freeing up time and space for making practically everything xenobaroque pieces of art – the functions of their devices are simple, the appearance the opposite.

Human-Trahan Relations

Beneath the Arc of Heaven, in the Capital, at the Plaza of Formal Regard, the permanent Xenological Comission announce the following decisions: First, that the beings called humans have been successfully plexed according to the laws and philosophies of the glorious 89th dynasty of the empire. Second...
- From the Victoria Treaty of 2150

Humans do go home!
- Trahan grafitti

Since the first encounter in 2127, Trahans and humans have learned from each other and adapted to the quirks of the other side. The process has been far from smooth - at several points serious mistakes has been made, and there are still sizeable groups that think the species cannot share the same society and will forever remain alien to each other.

The Victoria Treaty of 2150 does not just regulate human-Trahan relations but contains the philosophical ideas that humans and Trahans are really of the same kind. This integration has both helped the relationship between the species, but also led to a number of quirky bureaucratic problems (are humans eligible for the Tree of Election?) and some subtle threats (if humans are a kind of Trahans, the colonies are really outlying parts of the Empire).

To the Trahans, humans are uncultured, stressed and disorganised; ever groping towards perfection but always getting sidetracked by shiny new toys or ideas. Many Trahans think it is important to educate humans, and there has been several drives for sending out missionary-teachers to help the humans.

The Victoria humans see the Trahans as the majority; they are aware that they are a small minority on a planet totally dominated by the Trahas for the last ten millennia. Some react with an inferiority complex, trying to outdo Trahans and Trahan culture at all costs. Others accept it, and instead seek to become more Trahan. The Xenocreole and moderate Victorians instead try to combine and plex the cultures, whith the Xenocreole opting for a close collaboration and the mainstream a more regulated meeting.

Politics

The issue has been stalking the five previous administrations, and none has dared even challenging the base after carefully evaluated deliberation. Will we see a similar climb from present responsibility from our honoured council, or can the gardeners of our ethics again raise the twilight banner? In any case, our branches will be eagerly attuned to the outcome and perform our proper act.
- 4-Representative Lesne-Lannssth of the Economic Circle Propership Branch

The current state on Traha is a planetary empire, ruled by the couples of the 89th dynasty. The political system is complex, with many ancient customs and holdovers from past dynasties. A council of influential officials selects the imperial couple; its position is not unlike a terrestrial presidency where the president has significant but not unlimited power. The councillor couples are in turn selected in other ways from subcouncils governing various functions and

areas. For example, regional councils elect the continental administrators, while the Chief Organiser Pair is the most senior couple of the imperial administration. The whole structure is called The Tree of Election, and is based in the current Nasstschsch (governing philosophical paradigm). The Tree structure is a web of compromises, holdovers, clever power balances, bureaucratic concessions and local democracy – the details are extremely involved and keeps the Imperial political designers busy. The overall effect is to promote competent, ambitious Trahans towards high office while balancing different opinions and groups. Certain organisations and offices provide a quicker way, but are more limited, while the long way up is more uncertain but flexible.

The system of having couples holding office means that career-minded Trahans need to find a suitable spouse, and that if one of them dies the remaining person either has to re-marry or step out of office. In the imperial court there are many well-respected widowers and widows playing a subtle role in the background, either trying to find a partner to get back into politics or scheming in the background.

The empire is divided in a complex system of regions, organisations and departments. Many are fairly independent, but the imperial couple has a profound political influence by their strong media presence and the imperial agencies. Of special interest are the Harmony Police. The Harmony Police works to preserve the stability and order of the empire, not to fight actual crimes (that is left for other agencies). To this end they influence society using the amassed techniques of philosophical engineering, infiltration and rarely subtle pressure. Currently they are especially after cultism, trying to make society less passionate and more rational by defusing the cults, directing their energies into harmless directions such as sports, art or bickering. Censorship is regarded as gauche, the empire is run gently but skilfully.

In Trahan politics, there is a polarisation since time immemorial between the Reformists and Loyalists. The Loyalists are the groups supporting the current paradigm and its institutions, while the Reformists either want to modify it (the Near Reformists) or change the paradigm altogether (the Far Reformists). Loyalists are not necessarily happy with the current rule, but accept its philosophical premises and want to work through the system. The border between Loyalists and Near Reformists is rather blurred, and change as new ideas are incorporated into the empire. What distinguishes Near and Far Reformists is that Far Reformists have fundamentally different philosophical views on how society should work – to implement them the dynasty needs to be radically changed. Since Trahans dislike contradictions and confrontations, even the most radical Far Reformists usually try to couch their ideas in language and forms similar to the current Nasstschsch and show that they are better in all respect. Only the most extreme and dangerous Far Reformists such as passion cultists refuse this and opt for confrontation.

The current regime has a fairly unified Loyalist block, dominated mainly by various ambitious branches and persons trying to climb upwards and promote their interests rather than divide over ideology. It has served the Imperial

Couple well, but over time the Reformist block has grown ever more rapidly due to the humans. New ideas from the humans have shaken the traditional order, despite the attempts from both the imperials and humans to keep the situation calm. Right after first contact a humanist fraction emerged among the Trahans, enthusiastic about human fashions, ideas and technology and forming a basis for some Reformist groups. Over time the humanists have gained in economic and political power through their collaboration, worrying purists who see humans as threatening the social order. Several academic networks have begun a huge project of "translating" human culture, causing endless debate and controversy around certain areas; the Permanent Imperial Xenological Committee is in constant session dealing with how to handle sensitive problems and what areas to "concentrate less on". The emergence of xenocreole has especially caused trouble, as it doesn't fit in with the current philosophical systems and exploits the cracks between human and Trahan culture in ways traditionalists can't follow. Overall, the humans are forcing more and more Loyalists into the Reformist block in order to help or oppose humanism.

Another dividing factor is the "Tashn Issue". Tashn is a form of taxation dependent on living in certain historical building complexes (a sizeable fraction of the population does). While Tashn was originally intended to pay for their upkeep, it has been diverted to many other projects and the original meaning diluted. This has in turn produced a thriving business of "tax evasion" through moving which the Empire has tried to limit, with the result of ever more complex and resilient tricks being developed. The Trahan taxation system is extremely complex and so riddled with potential loopholes and traps that tax evasion is becoming a significant threat to imperial stability, and reforming taxation is nearly impossible without upsetting millennia-old institutions. The most unusual thing is that since Trahans to a much larger extent than humans feel a need to maintain public goods part of the evasion money is diverted into Tashn Foundations, local foundations to maintain the complexes and other public goods. The Empire is faced with the problem of either trying to reclaim the money from the Foundations, and then hurting the public works it tries to maintain as well as becoming highly impopular, or trying to limit tax evasion by streamlining the system which immediately runs into huge bureaucratic and political issues.

Language

Humans speak funny
- Trahan grafitti

Trahans speak with snorting, hissing and vibrating voices from their breathing slits. Many of the sounds are very hard for humans to imitate, and vice versa. The different breathing slits can be used to create subtle pronunciation effects that are important in conveying emotional content. While talking in stereo is possible and a popular trick, it is not used in normal speaking.

Trahans have had many languages, but ever since the Logocratic Experiment of the 63rd dynasty there has been only one main language (the Experiment was the deliberate attempt to impose mutually incomprehensible artificial languages in different provinces to create a divided and easily ruled empire; the logocracy failed spectacularly even if it did wreck havoc with language); global communications and a centralised empire has promoted the emergence of Trahan. Within different communities and professions such as philosophy, medicine, technology, branches of government or businesses terminology has however evolved for a very long time, and independent sub-languages specific for the fields have persisted for millennia – they may not even belong to the same language group as main Trahan. Of course there are some regional differences; a Trahan can readily hear that somebody is from Kaalrr, Na, Snrr or the oceans.

Trahan voices tends to produce mainly alveolar consonants and has a fairly low number of vowels, but the repertoire is extended by the different sounds made when inhaling or exhaling the sound. The tone and rhythm is relevant for meaning too; when writing Trahan using human characters a detailed orthography is used, but in most applications only a rough (usually still hard to pronounce) abbreviation is used. The language is agglutinating (syllables or affixes have individual meaning and put together), but many common words have been abbreviated. The language has no strict division between adjectives, nouns and verbs - the same word can be used to denote both something, what it does (modified using various affixes) and its properties. Na may refer to the continent, being of or related to Na or Na as a historical process - the context determines what sense works, and they can often be mixed. Overall, the meaning of most words is highly context-dependent, an isolated word often lacks meaning. On the other hand it has a very strict order in the sentence structure, including several types of clauses - some constructions force the speaker into going into extra explanations, politeness or roundabouts (even if everyday Trahan cleverly avoids it). It has a very rich vocabulary of social relationships, which are often used to denote even non-personal things like physics or philosophy.

Writing exists in many forms, the most common ("the imperial style") consists of a phonetic script with symbols denoting different sounds and their style suggesting subtle nuances of volume, timbre, intonation and mood. It is written both from left and right, changing direction at the edge of the paper (boustrophenonic writing); the phonemes look like small knots and loops. Another important form of writing is the simplified ideographic script, a remnant of the 75th dynasty which reformed many old writing systems and

philosophical concepts; the ideographic script is mainly used in hardcore philosophical deductions. The interplay between the angular ideographs and the looped phonemes are often used in weaving together complex visual diagram/sentences. Calligraphy and hiding texts in the design of objects is a popular art, and decorated fruits with poetry (and scented inks) a valued form of gifts.

They have had number systems usually based on six, seven or twelve. Modern Trahans use the duodecimal system, but the septal system was in use up until the 69th dynasty.

Trahan names are selected according to several systems. The most common consists of randomly combining syllables (usually as a kind of game/ceremony by the parents and their branch); some groups use parts gathered from an area such as history or a science to produce new names. Another system creates descriptive names (like Sshna-Tre, "Long skin flaps"). It is rather common to have many nicknames and functional names; titles and achievements are often combined with the name, creating a kind of "wardrobe" of names trahans can use in different occasions.

Trahans in Alternity

Str 2-12
Dex 5-16
Con 4-10
Int 4-14
Wil 4-14
Per 4-16

Free broad skills: Athletics, Acrobatics, Knowledge, Administration, Culture and Interaction.

Trahans have a –2 bonus for climbing and all skills where having six flexible limbs come in useful. Trahans have a –1 bonus to escape and resist damage from falling.

Trahans naturally have the advantage ambidextrous; however this only makes it possible to use both sides in parallel, the ability to use all four hands independently must be taken as a ambidextrous perk.

GM section

The Mothers

The expansion of life over the universe is a beginning, not an end. At the same time as life is extending its habitat quantitatively, it will also be changing and evolving qualitatively into new dimensions of mind and spirit that we cannot imagine. The acquisition of new territory is important, not as an end in itself, but as a means to enable life to experiment with intelligence in a million forms. - Freeman Dyson

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The Mothers evolved on a terrestrial planet approximately 1540 light-years away from Sol in the direction of the Swan constellation. The planet was slightly heavier than Earth and significantly warmer, covered with large shallow seas and lowland continents. Their ancestors were tortoise-like creatures living on beaches and tidal zones. The females were large and reasonably intelligent, the males were quick fishlike swimmers of animal intelligence. The species protected their young under their dorsal shells, and formed small colonies where the adolescent young brought with them food and nesting materials to the larger and less mobile mother in exchange for protection and some teaching.

Approximately three million years ago a spacefaring species, the Ur-Mothers, arrived to the planet. They discovered the early Mothers and began a program of genetic enhancement. Their motivations are unknown, but it appears that they were interested in creating new and unusual intelligent species for some reason. They made the mother-daughter interface, originally just a nerve bundle providing homeostatic control, able to transmit information directly into the daughter's brain, and after birth it remained as a means of communication. The result was that daughters learned directly from their mothers, enabling a kind of family knowledge to accumulate.

Physiology

The mothers look vaguely like big tortoises or beetles: their backs are covered with a large protective shell (usually a sandy grey, but often overgrown with algae gathered in complex patterns or other decorations). Around the circumference they have five extremities covered with a slick black skin, which end in soft muscle pads able to deform themselves to work as fingers, grip objects or manipulate. One of the extremities is covered by sensory organs and would correspond to an earthly head. Food is placed in "mouth-pockets" on the underside, where it is dissolved. In a similar manner they breathe into sacks of gills, which can function both on land and in water (although they are less effective in dry air, and the mothers have to return to water after a while on land).

Their sizes vary much more than among humans, young mothers have a diameter of around one meter and equally long limbs, while in modern times some old mothers can become over twenty meters in diameter. Such large mothers cannot even move themselves underwater, they have to rely on their daughters for protection and feeding and often need bionic enhancements just to keep their bodies working.

The mothers are actually the female form of the species. The male form is much smaller and lacks the shell, and instead has a smooth membrane between the limbs which he uses to swim with like a ray. They are not intelligent at all, and spend most of their time hunting small animals and seeking mothers to mate with. When they find an accepting mother, the male climbs in under the shell and attaches itself to an organ where he gradually is absorbed by the mother. Under the shell there are several spaces where the young gestate. If the mating is leads to male offspring, the result will be a sack filled with males, which eventually bursts when the mother is underwater and releases the males into the ocean.

On the other hand, if the result is female, only one embryo develops. As it grows, its fifth limb functions as an umbilical cord, but also links the developing nervous system directly to the nervous system of the mother. During gestation the young are shaped by the memories and behaviours of the mother, and often are able to recall events in their mothers previous lives. Eventually the young has developed enough and leaves the shell of the mother. However, the daughter can still reach in with her limb and connect herself to the nerves and hormones of the mother, albeit less completely.

The young remain close to the mother as long as she lives, protecting her and bringing her food. When a mother has birthed some daughters, she usually becomes more stationary and spends most of her time birthing more daughters. The grown up daughters often relink to their mothers from time to time to keep her up to date with what is happening and receiving orders and coordination. The older mothers function somewhat like earthly queen bees.

The fifth limb is specialised in many ways. Its pad is usually enlarged, and quite sensitive both to touch and taste. Its main use was to pick up food and place it in the "mouth-pockets" and to link with the mother through a slit on the underside. Along the limb there are iridescent stripes functioning as visual organs and

small loosely hanging bulbs which have both auditory and olfactory functions underwater (the mothers are almost deaf in air). The Mothers lack colour vision, but are sensitive to the polarisation of light instead. The other limbs have also sensory organs, but they are less developed. The fifth limb is on the other hand much more dextrous and has a thick bundle of nerves running directly to the tube-shaped brain of the mother.

Mother biochemistry is different from terrestrial biochemistry, so different that they are slightly poisonous to each other. The amino acids tend to interfere with the other kind's life processes, and oils in the mothers' bodies are cancerogenic to humans; diplomats often take medications to counteract the effects. The mothers also prefer higher temperatures, in the range 30-40 degrees Celsius, than is comfortable to humans.

Psychology

The peculiar link mother-daughter is fundamental to mother psychology. Unlike most other races they learn much while still under development, and never have any real childhood. The views, skills and ideas of the mother is at least partially transferred to the daughters, who usually are quite mentally similar to their mothers. Reconnections reinforce this link, although not as intensely as the initial total contact.

The families of mothers are extremely tightly knit, almost group intelligences, but the individual members are quite able to survive on their own. However, most feel an intense desire to link with their own mothers from time to time, and without the contact they grow restless and depressed. Linking itself is a slow and apparently fulfilling experience, which usually takes at least a few hours. The daughters partially climb under the shell of their mother, and attach their fifth limb to the patch they were originally linked to (other places are much less efficient). Gradually their nervous system link up with the mother, and their minds begin to exchange knowledge. The communication is not ordered in time, memories, thoughts and emotions gradually diffuse between the two. In fact, the mothers have no concept of a temporally ordered language; their writing and gestures are all intended to be read and understood as a whole process, not as a series of events. To simplify this, various modes of thought and remembrance has been developed, where concepts are unified into blocks which are easier to transmit.

Linking between two unrelated mothers is possible, but very hard and seldom used. Many mothers regard this as directly unhealthy or immoral, a danger to the mental and ideological stability of the participants. However, this taboo has gradually been loosened in the more progressive clans, especially since the advent of cybernetic linking, which simplifies the process. One special use is adoptions; sometimes an individual is adopted into a family, and gradually learn to communicate with the central mother. This is rare, but usually regarded as an extreme honour for the adopted mother.

The mothers see the world in terms of connections and patterns, not as objects like the humans. Things are naturally ordered into hierarchies and systems, and

the mothers are very conscious about recursion.

Ideologies are serious things for the mothers. The convictions, worldview and vision of the mother is usually transferred directly to the daughter, which means that they will hold them too. A family usually share the same basic personality, and it is at least partially preserved over many generations. This has led to the creation of very strong and stable ideologies/group identities, which continue for generations (in fact, they were the force behind the old clan system). Conversion is much less common than in humans, but it can still happen and is usually quite wrenching for both the individual and her family, which she usually have to leave. Most of these ideologies are quite diffuse, more like sets of values or personal preferences, but there are also clearly defined philosophies (like unificationalism) which from time to time manage to sweep across society, causing total chaos until things become stable again.

While mothers have intense empathy for family members, they feel very little empathy for mothers outside the clan (unlike humans, whose empathy merely decreases with relational distance). This has been a central factor in the fragmenting of Mother society.

Another downside of the linking is the risks of contagious insanity. Certain mental disorders can spread from mother to mother by linking, until they affect the entire family. In some families mentally disturbed members were ostracised or even killed, but today advanced psychiatry is used instead. This fear of insanity has both encouraged the search for perfect mental health, and a feeling of unease when confronted with irrational behaviour. Anyone behaving in a erratic manner is suspicious, and at least subconsciously feared as a potential source of infection. Some mothers actually avoid contact with animals or aliens, regarding them as dangerously odd. More reasonable mothers point out that the males are quite mindless, yet they are accepted.

Mother psychology is quite diverse, but a highly respected profession in most societies. The different psychologist families all have different views and methods, but most are quite efficient within their specialised area. Some train mothers various mental techniques to increase their stability and flexibility (this is especially common among the orthodox unificationalists), while others employ consciousness-altering drugs and therapy, discussions, surgery, cybernetic interfacing or groups of psychiatrists who link up to the patient together, letting her temporarily experience being a grandmother with a group of highly competent children supporting her.

History

The Mothers evolved as scavengers along the coasts of the tropical oceans of their homeworld. They emerged from the sea to gather food which had been washed ashore, using their shells as protection and camouflage against predators. The crucial step in their evolution seems to have been the development of the mental link between mother and daughter. In the beginning it was just a simple neural link, but the evolutionary value of transmitting some learned behaviours was so great it quickly became more and more powerful. As the experience of the mothers were partially transmitted to the daughters and not forgotten, cultural evolution began to speed up.

At first, the mothers began to manipulate the coastal areas to simplify the gathering of food. They invented the net, various traps and piercing weapons. When they could gather more food, the older mothers could grow bigger and survive longer, and in some families there were even grandmothers or very rare great-grandmothers. This created the pyramidal system which persists today; the central mother, usually too large to move, is the coordinator and planner of all activity. Her daughters link up to her from time to time, and function as her subordinate coordinators. They lead their daughters in turn, and so on. The oldest mothers are rather passive, and spend much time linked together or doing tasks such as weaving nets or crafting tools which do not require moving around. The younger mothers help them, gather and prepare the food according to directions and protect the family. When the oldest mother died her daughters moved away from each other and formed their own families.

This system had many positive aspects, but also caused many problems. Each family was almost completely independent from every other, so new discoveries and inventions spread very slowly from family to family through imitation or bartering. Each family had to be able to hunt, build protection, gather food and build tools well enough to survive, which led to the development of elaborate mnemonic techniques so that vital knowledge could be passed down the generations.

Cooperation between different families was also very variable; often the families which resulted from a split worked together in the beginning but then gradually drifted apart. Warfare between different families was not uncommon. Hunters tried to get as close as possible to the central mothers and kill them, forcing the defeated and split family to leave its old territory.

The mothers lacked any real language to communicate with each other, but gradually methods of communicating with gestures or objects placed in patterns on the ground became common. This eventually evolved into various systems of sign language (mainly used inside the family) and writing. Some families began to work together, especially closely related families which formed clans. Inside the clans the families could specialise themselves; a family had no longer to know all vital skills, they could rely on another family that knew the needed skill. A division of labour developed, where the families of a split usually divided their old trade into specializations.

The clans also sometimes defeated outside families and forced them to become low-status members. The clan system quickly grew in complexity as some clans

began to hold members which were not closely related with the leading families. Their range of skills grew, and specialisation became more and more profitable. Many different forms of society was invented and tried, some familiar from Earth, others completely alien. One common form was to try to mimic the family structure within the clan, with the central mothers linking up to largely immobile leading families.

Civilisation developed quickly in some areas, while other areas remained backward for millennia. The mothers spread along all habitable coastlines and shallow parts of the oceans, and gradually colonised inland areas around lakes and rivers. When the digging of channels was invented, they began to create artificial rivers and shores. Boats of various kinds travelled along them, and the old primitive huts were replaced with sprawling cities of domes along the coasts. When fire was tamed the mothers began to use metals and waterproof ceramics. Great civilisations developed from the most powerful clan-states.

Being naturally curious and inventive, the science and technology of the mothers developed fast in many directions. One unusual thing is that it was never the unified endeavour most other races see it like. The mothers developed it into thousands of specialised disciplines, only rarely combining them. This limited the developments, encouraging elaboration rather than fruitful synthesis, which was the domain of lone geniuses and happenstance. Eventually this resulted in a counter-movement, the unificationalists. Unificationalism was developed by a single family, and their simple but powerful writings got an immense recognition among many other mothers. They strove to unite the various branches and sciences. As the movement gained momentum, it acquired a deeper meaning and its stated goal became to not only unify all the sciences, but also to unify other aspects of life. The ideal mother was (according to the unificationalists) equally skilled in most areas, or at least less specialised than in the current system. The more specialised clans generally regarded the movement as irrational and dangerous, and for several decades fierce political, social and military struggles wracked the planet.

The conflict was never truly resolved, but gradually petered out. The unificationalists were able to sometimes make great technological leaps, but were not quite as efficient as the more conservative specialists. Gradually the ideologies divided and mutated, as specialists began to acknowledge the need for some generalism, and the unificationalists realised the complexities of handling all the skills and knowledge needed to become complete. The orthodox unificationalists gradually became more mystical, and spent much time pondering the mysteries of time, balance and knowledge. The more radical parts of the movement divided into two main groups; one which supported the development of computers and cybernetic enhancements to help this process, and another which claimed that modern civilisation was too complex to be healthy, and longed for a return to the old days when a skilled family could survive on its own, without allegiance to any clan or ideology.

The cybernetic movement soon attracted much attention as it began to show some success. They developed the specialist computers further, uniting previously unrelated disciplines with great success. When they managed to

crudely imitate the neural interfaces between mother and daughter, this was proclaimed as the beginning of a new era by many radicals while the revivalists and many conservative families regarded it as a perversion of something holy. The new conflict was resolved rather peacefully, as the cyberneticists and the clans which supported them already were expanding into space. Gradually a new order dawned, where the conservatives remained on-planet while the radicals moved outwards.

The first epoch of colonisation was filled with competition between the various groups, as they industrialised their solar system. Some fractions left their solar system using generation ships, while others isolated themselves in artificial habitats in remote corners. However, gradually a new order developed as a coalition of clans (led by the Balanced Moderators) began to tie everyone together in a network of trade, communications and philosophy. The basis for their ascension was the discovery of the Ur-Mother artefacts in space. The mothers realised the importance of them, especially when they found the remains of a mother habitat buried beneath the surface of an airless moon; all the evidence pointed towards the fact that somebody had "helped" the race. Studies of ancient myths, archaeological digs and studies of the remaining ruins in space fuelled an obsession with finding the Ur-Mothers. The stated goal of the Balanced Moderators was to re-link with them, and the other clans came to agree with their project.

When FTL technology was invented the coalition immediately began to explore space, seeking the traces of the Ur-Mothers. It also allowed many incompatible clans to get away from each other, starting a second wave of colonisation and diversification. The explorers traversed huge distances in search for the Ur-Mothers, gradually tracking them down through their ancient ruins. Approximately a thousand years ago they finally reached their goal. The experience proved disappointing, as the Ur-Mothers had apparently abandoned the real world to live in a digital Shagri-La. While several clans remained in the vicinity of the Ur-Mothers, trying to understand or link with them, the rest of the mothers suffered from a profound shock, not unlike realising that a grandmother had died. This caused the dissolution of the coalition – the Balanced Moderators no longer had the ideological or cultural strength to hold it together, and many saw the discovery as a signal to a racial diaspora in analogy with daughters moving out after their mother had died.

The great diaspora threw the clans across the galaxy, many travelled hundreds of light-years away from the others to set up their colonies. The concept of a single mother race vanished, to be replaced by the idea of clans of clans. During the time after the diaspora several "empires" and civilisations emerged in various parts, but none lasted more than a few centuries. The Balanced Moderators and some of the other clans from the coalition period slowly regained strength, and attempted to seek out the scattered colonies to set up trade, communication and cooperation. Their results were mixed, but a diffuse network of inter-clan contact has slowly emerged.

Society

Today the mothers are divided in numerous clans and fractions. Generally, the more traditional groups are found on the homeworld and old colonies near it, while the radicals have moved outwards into space.

The clans are still strong, but very fragmented. They are essentially families of families, held together by tradition, family ideology and sometimes the threat of violence, although many are more similar to immense family businesses. Most surviving clans are specialised in some areas, like the Wild Soarers who deal with space transports and the aerospace industry, the Concentrated Assemblers of Things who are largely artisans, and the Pleasant Uniters who deal with mental and social matters (they are closely linked to the unificationalists). Hard-Crushing-Waves originally was a very militant clan, but has gradually developed into a kind of racial police/military for hire, while Pure Circularly Polarised Light is specialised in the creation of a special kind of mystical experience as well as quantum computing. It is not uncommon for families from different clans to work together in teams, forming another level of organisation.

Some important groups are:

The Returnists are rare outside the homeworld. They want to return to the old scavenging lifestyle of the old, using only the classic tools and skills and avoiding the traps of technology and complexity. Several colonies of them exist in remote areas, where they tend their shorelines. They don't want any contact with the other mothers, although they sometimes trade simple products like carved shells and a resinous substance produced by a rare aquatic animal for simple tools.

The orthodox unificationalists are a small but influential group in some areas. They seek to become equally proficient in all skills, using complex mystical/psychological methods. Unlike the returnists they do not deny modern civilisation, since its complexities will be mastered when they find the secret of becoming totally general. They place great importance in experiencing and doing all things, and are very interested in contacting aliens.

The Balanced Moderators and **Balanced Mediators** are a group of families which studies ideologies and how they work; they have specialised themselves as diplomats and middle-men. They are convinced that the mothers have to learn to rid themselves of ideologies and other preconceptions in order to become truly free. However, in practice they are quite occupied exploiting the differences between the groups. The Moderator and Mediator fractions exist in a complicated familial-administrative-economic competition based on their philosophical differences.

The cyberneticists are one of the dominant ideologies/clans among the

mothers, although it has numerous internal schisms and differences. Their goal is to use bionics and information technology to give every mother the ability to become as free as possible from the constraints of overspecialisation and the problems of being a generalist. They have developed bionic links to computers, which can be used to transfer and store "bottled memories". They also encourage the use of remote linking through radio or telecommunications. This has produced families spread across huge distances, since linking is far from a real-time procedure anyway. Other cyberneticists have developed interfaces allowing them to communicate with other races, or cybernetic enhancements of various kinds.

The Unified Linkers are among the most radical of all cyberneticists. They seek to use interfacing to remain linked all the time with their families. This is extremely comfortable, giving them an intense sense of unity, but also increases the risk of mental disturbances severely. Some of the most extreme linkers are even connecting linked families into super-families using their computers. There have been some spectacular successes and failures, but so far their dream of a totally unified race has been unsuccessful.

On the opposite side there are the **Independent Loners**, who want to remove themselves entirely from the family system, regarding it as a trap. Originally they were a mixed group of malcontents and loners, but they have gradually grown into a political force of note in some colonies.

The Shining Engineers Vector have studied the remaining megastructures of the Ur-Mothers, and try to recreate them. Their philosophy is that the universe is raw material to be shaped into ordered forms by life and intelligence. In some sense it is up for grabs – whoever transforms it first will get their will through. The Vector is involved in several terraforming projects, as well as more explorative studies. Their ultimate goal is to spread across the universe, re-engineering it to maximise life and complexity, ultimately modifying the universe into an omega point.

Some "remote" clans are hard to get in touch with. Some remote clans that are relatively widely known are: The Flash Burn Coelenterates, who reputedly seed gas giants with black holes to temporarily terraform their moons. The Floater 132 Group and Tygarite Guides are reported to have replaced themselves with machines (whether this means they are uploaded or have been superseded by AI is unknown). The Collectors have a thriving and very diverse civilisation running somewhere in the vicinity of the Coalsack Nebula. The Convectionalists hunt supernovae for unknown reasons; currently they are near the remnants of Eta Carina.

Culture

The Mothers seem to enjoy fractals of all kinds; there are very few straight lines or smooth surfaces in their environment if they can help it. Instead everything is rough and baroque, not unlike their shells (which they often cover with decorative colourings and plants), and usually self-similar in some way. Mother buildings usually consist of a large central dome, surrounded by smaller domes which in turn have small extensions (the grandmother lives in the central dome, her daughters in the neighbouring domes and so on). The inner walls are often covered with branching structures to hold possessions or plants.

The underlying rules of the fractal objects sometimes has hidden meanings, and it is very common for mother artisans to play games or make riddles out of the recursion. Real connoisseurs can spend long time deciphering an object, trying to find new hidden levels of meaning. Alien plants are popular, especially those with "interesting" shapes.

There have never been a real oral tradition among the mothers, but certain ancestral memories have survived, usually in a highly symbolic and formalised form. Every clan and family have its own "unity-memory", a kind of symbolic memory or identity which by tradition is divided into four important parts and one unimportant part (a very common storytelling trick among the mothers, just like human like to repeat something three times).

The mothers have a very rich poetic tradition, dating back to the pre-space days. Many of the most widespread ideologies are encoded in canons, sets of poetic works that describe the vision of the ideology, its origins, tenets and history.

Technology

Mother technology varies between the clans, but is in general advanced compared to human technology.

Higgs field technology turned out to be an early development; to the mothers it was almost directly clear how the wrecked spaceships of the Ur-Mothers they found in their solar system had worked. The first higgsrams were rather crude, but over the great search they became better and better. They also discovered how to create forcefields and manipulate momentum. After the diaspora the different clans developed the technology in different ways. Gravity and momentum control are widely used, and especially the Shining Engineer Vector like "active architecture" where much is based on fields holding everything together (beautiful when it works, potentially disastrous if something can fail).

A few of the clans have pursued nanotechnology, mostly some of the cybernetic schisms. Others have bought the technology from them, but they still remain masters. They have nanodevices able to act in the natural world, remodelling it as hyper-effective lifeforms. A few of the remote clans have instead opted for

large-scale biotechnology, living in or as symbionts of huge artificial lifeforms.

Unlike humans, mothers have never been interested in AI. There are a few remote clans pursuing this (the Tygarite Guides might even have replaced their entire population with robots, if the Balanced Mediators are to be believed), but most mother computers are merely tools taking orders. The cybernetic clans have of course developed this to a high level, including neural virtual reality, knowledge sharing and quantum computing.

Mother spaceships tend to be huge, entire cities moving between the stars. Each carries an entire fleet of smaller shuttles, transports and other utility craft. Their shape is usually bizarre by human standards, complex fractal rocks covered with recursive patterns and weird colouring (which is really a side effect of the polarisation painting). The different clans use ships of noticeably different styles, and the shapes seem to be just as much identification and functionality. The ships make huge wormholes, but seldom make long jumps.

One the personal level, Mothers are noticeably less interested in gathering knickknacks and possessions. Instead they accumulate family goods, stuff that belong to the lineage rather than the individuals. However, many families are acquisitive and gather all kinds of stuff, ranging from art to technology. On the other hand, Mothers often take great pains in creating pleasant and practical environments around them. Landscape design, gardening, architecture, furniture-making and environment setup are important and popular activities – every Mother seems to want to create a personal space that is both totally personal and fits with the surroundings according to some scheme.

Human-Mother Relations

The humans are interesting to the Mothers. They are unusual, and often quite amusing: the gestures made by human hands have a certain "bony irony" the mothers find humorous. More importantly, humans have the potential for mutually beneficial cooperation. They are one of the most approachable species they have found.

The three clans in contact with humans are the Shining Engineers Vector, the Balanced Mediators and the Radical Unificationalists. The Engineers are the most approachable, having their closest outpost at Adobe. They act as "artist managers" for humans versus the Mediators, reaping some profits from it. They want more contact with humanity, seeing humans as potential partners.

The Balanced Mediators are interested in trade and information, but mostly among mothers. Human goods and culture are tradable, but they have so far not yet adapted their mostly mother-specific diplomacy and services to human needs.
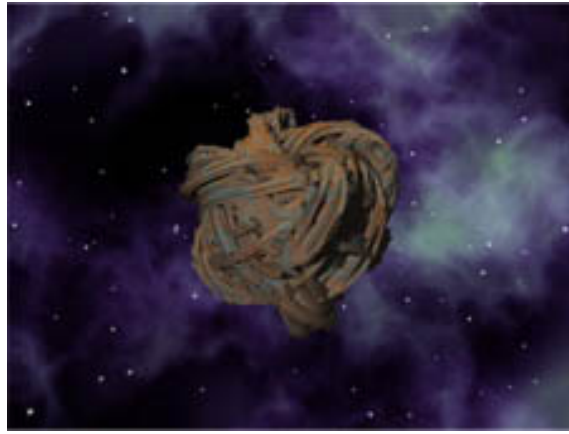
The Radical Unificationalists (an offshoot of the Unified Linkers) exist on the outside of human space, having sent a few ships to visit. They are mostly interested in developing their own unified minds, but has contacted some similar-minded human groups such as Unity, psychosocial experts of Dionysos and Traha and interested people elsewhere; the informal cooperation is called the Linker Project.

Currency

The Mothers have different systems in different clans. The Shining Engineers trade in terraforming futures, the Balanced Moderators have a number of "polarized currencies" for different purposes and the Unificationalists avoid money - everything belongs to the familymind.

Language

The Mothers have several forms of communication. The most intimate is the mother-daughter link, a form of preverbal sharing of knowledge. The second form is sign language, which is used between Mothers. The third form is the electronic/text language used for long-range communications; it is based on the sign language but has developed on its own. Then there are the traditional form of text too.

Mother sign language consists in movements and shape changes of the pads of the front limb, sometimes aided by other limds too. It is quick, flexible and works well over long distances. Since movements have meaning, many objects or events suggest poetic names (for example, the fall of a pile of rocks would contain several signs with completely unrelated meaning, but taken together they form a very poetic description of the fall). The structure is often a simple basic theme, overlaid with elaborations and modifiers (the basic theme may be "The orbits will intersect within a finite amount of time", with overlays of "The exact time is 54 minutes", "The objects in questions are the planet and the asteroid" and "This will be useful"). Making the higher themes requires plenty of dexterity, and most Mothers have trouble with more than two levels. It is regarded as a sign of great intelligence and eloquence to formulate elegant movements with many levels of themes, even if the viewer may not understand all the details of the higher levels.

Mother writing has always been ideographic, since it is easy to learn from their parent. The oldest forms were literal pictures (or gathered objects) used to communicate with other families, which were gradually refined into the current writing systems. However, Mothers often introduce if they can the real thing discussed (as a picture or actual example) into the text instead of the word. Today the clans have very different forms of writing, most based on the old

pre-Diaspora systems. The Balanced Mediators use an artificial system of shapes (to a human, they look like fractal blobs), while the Shining Engineers use a pictorial ideographic system written in branching sentences.

Electronic communications have developed far from the Morse-like first attempts. It is currently a stylised form of pictorial representation of the front pad and its movements, easily viewed on a screen or on a touch-pad. Since they are largely based on the sign languages they are hard interpret for outsiders, but some standard pidgins exist. The cybernetic clans use much higher bandwidth mind-mind signals, mimicking mother-daughter knowledge transfer.

Mother Pets

Dancers

Small spider-like scavenging animals that held the same ecological niche as beach-combing crabs on Earth. They have ten legs, and a head (little more than a sensor cluster) on top of a long flexible stalk. They have been used by Mothers since antiquity to help scavenging, guarding homes or entertainment. In space they mostly are used for aesthetics, being trained to exhibit pleasing motion-patterns and keep the habitats clean. Flocks of Dancers move around in elaborate patterns, whirling about and gesticulating in ways that appear elegant to their owners.

Ribbon-kelp

A silvery plant that grows underwater in Mother habitats. It both keeps the water clean and has been engineered to react to the presence of certain illness-toxins with changing colours.

Droplet catchers

A relative to the Dancers, that has been bred to catch droplets. In low-gravity environments water can drift around where it shouldn't, and the catchers are the solution. They look like spiders with feathered legs, jumping at droplets in the air and bringing them back to larger bodies of water. In exchange they receive nutrients based on their performance; many cybernetic clans have neurally integrated them with the life support system.

Mothers in Alternity

Str 4-20 (15)
Dex 2-12
Con 4-20 (16)
Int 8-16 (14)
Wil 8-18 (15)
Per 4-10

(the upper range is usually only achieved by grandmothers. The exception is Dex, where grandmothers are much less dextrous than their daughters. Maximum for daughters is within parenthesises)

Free broad skills: all the different clans have different sets of broad skills. Among the Shining Engineers Vector the skills are Survival, Vehicle Operation, Knowledge, Interaction, Technical Science and Physical Science while the Balanced Mediators have Vehicle Operation, Knowledge, Awareness, Culture, Interaction and Leadership.

Mothers inherit 30 extra points of skills from their mothers.

Mothers are amphibious and automatically have Swim to rank 3.

Mothers tend to be Slow (especially older mothers, who become immobile).

The Ur-Mothers
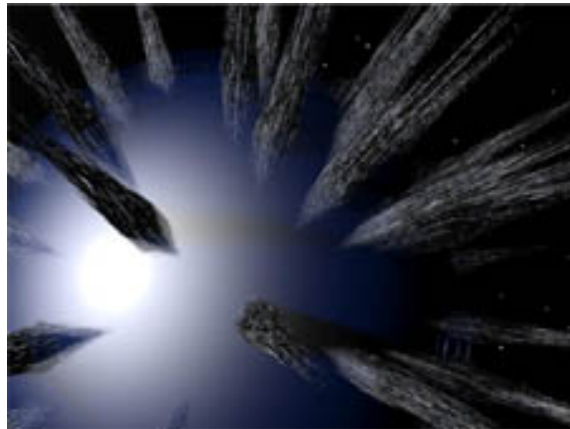
The species that uplifted the Mothers still exists in some form, although very changed from the original. It was originally a biological species, likely evolved on some terrestrial world somewhere. It began to expand into space three million years ago, leaving behind colonies, installations and artefacts over a vast volume in the direction of the Orion arm. At several places they began uplifting projects. During the early expansion phase it was a very diverse and progressive civilisation or group of civilisations. At some point it shifted from a biological form to a technological form, and many of the old colonies were gradually abandoned. One of the mysteries is why the archaeological record shows a total lack of evidence for their existence in certain intervals of time, only to be followed by other periods of obvious activity. It might be that entire civilisations hibernated or changed focus for tens of millennia at a time.

Around 2.6 million years ago the Ur-Mothers stopped expanding and instead began a slow retreat to their core worlds. The reason is unclear, there is no

evidence for any decline, war or other obvious reasons. In the end they were concentrated to a hundred widely dispersed systems, to this day showing signs of enormous megastructures and astrophysical engineering. For over a million year these civilisations persisted, before the Ur-Mothers began to move again. They retreated to a cluster of red dwarf stars 3000 light-years away, where they built a number of gigantic orbital structures.

Today very little remains of the colonies and artefacts of the Ur-Mothers. Most planetary colonies have been reduced to rubble, and their heavy use of active nanotechnology in space has made their space installations decay beyond recognition. The megastructures from the late epoch remains, but are apparently guarded by defensive nanoweapons. The orbitals they inhabit today consist of low density spheres hundreds of thousands of kilometres in diameter, supplied with energy by orbiting swarms of solar collectors. It is believed by the Mothers that the interior is highly unusual; exotic states of matter such as confused matter, neutrino crystals, quark spaghetti or even textured space-time have been conjectured. The outside is a mixture of efficient quantum receivers and fractal "spacescrapers" of unknown purpose.

The Mothers have sought out the Ur-Mothers, following the archaeological gradient. They found that most of the uplift experiments had failed, and apparently nobody were at home in the megastructures. In the cluster they achieved contact with what they believed were the Ur-Mothers, or some interpreting system handling the outside world. Apparently the Ur-Mothers had achieved a state they regarded as highly desirable, explaining that the previous projects were merely "examples". They were politely interested in the developments of the Mothers, offering large amounts of nearly incomprehensible "state data" (lists of consistent and semiconsistent mathematical systems) and somewhat dated starmaps. The overall result was a widespread disappointment among the Mothers. It appears that the Ur-Mothers have retreated to some kind of ultra-advanced virtual world with no connection to reality, tended by AI systems.

The Herders

The Herders are another species uplifted to intelligence by the Ur-Mothers. The Ur-Mothers were rather eclectic (they seem to have uplifted species that interested or appealed to their aesthetics rather than the most likely candidates to succeed) when doing their uplifting, and few of the species they "helped" survive. The Herders is one of the survivors, and have the dubious honour of being uplifted twice.

The Herders have a spindle-shaped body between one and two meters long, ending at both ends in two branched limbs. The limbs split into two sub-arms, which in turn split into further "fingers". All their senses are located in the tips; while sight, hearing and touch aren't that advanced individually, together the branches can produce a high quality input to the central brain. Gesture or touch are used for communication in a way similar to how the Mothers communicate. The mouth/anus is a long slit along the body with sharp teeth, where food is pressed in and dissolved. The skin is a rubbery brown-grey except for reddish

sensitive specks at the tips of their branches. Overall, they are resilient and able to regenerate the loss of limbs quite well; the don't react to dismemberment very strongly.

Herders are hermaphroditic, each having a sharp incisor that can be unfolded from the mouth. Mating consists of attempting to inject sperm into the other's mouth-slit; in many cases this turns into a fight as both try to inseminate the other and avoid becoming pregnant themselves. The loser(s) develop 2-5 young inside their central body cavity, releasing them through their mouth-slits. The young are usually cared for by the whole tribe.

Herder thinking relies much more on instincts and pre-programmed reactions than most other intelligent species. Much of their behaviour is actually run by nerve ganglia in their branches rather than the main brain. When learning, they often perform strange "dances" or contortions as they train their branch-minds various useful behaviours. Overall they have worse impulse control than humans, and sometimes a branch may do something the main brain doesn't wish - self-discipline is an important skill, something the Herders call "controlling the inner herd".

The Herders are predators, living of a variety of other animals on their homeworld. When the Ur-Mothers uplifted them they simply gave them higher intelligence and waited to see what would happen. The primitive Herders promptly eradicated competing predators and hunted their preys to extinction, resulting in a massive ecological disaster on their home continent. The Ur-Mothers watched with interest. Not all Herders died, and the survivors spread to other continents or found ways of surviving. Gradually the Herders learned how to keep "cattle" and farm certain plants to attract some kinds of prey. They developed cultures based on controlling herds, seeing themselves as the herders of other species. This view also became their social paradigm: each tribe was a herd, controlled by a number of dominant individuals who had total control over the herded ones. The details of how reproduction, violence and becoming a herder rather than herded varied a lot between different tribes and cultures. In some tribes ritual combat was used, in others a promotion system and in some cases by deliberate matings keeping them in line.

When the Mothers discovered them while searching for the Ur-Mothers, the Herders were still locked into small tribal communities, not showing any sign of technological or cultural development. While most Mother tribes were just curious about alien psychology and how the Ur-Mothers had uplifted them, some clans were interested in uplifting the Herders further. While the Herders on the home planet were left in peace (they only retain legends of huge flying rocks inhabited by moving smaller rocks) some Herders were removed to orbital habitats where a coalition of clans, the Herder Ascendancy Stream, began the uplifting process.

As the Ur-Mothers were discovered and the diaspora began, the Herder Ascendancy Stream remained cohesive for a long time. But splits about the best way of achieving uplift led to different clans separating their uplift programs, essentially creating several divergent forms of half-uplifted Herders. Today

there exists at least four uplifted herder forms, although with one exception they exist far from human space.

Of special relevance to humans is the Unificationalist Herders. The cybernetic unificationalists were involved in the Herder Ascendancy Stream, and eventually succeeded in implanting Herders with neural interfaces enabling them to interface with the family minds. This project has continued among some of the unificationalist sub-clans, and have been successful in some respects. The Unificationalist Herders have practically lost their old culture (replacing it with unificationalist culture), but have instead become a kind of family mind "robots", contributing manual dexterity and alternative thought patterns. Their special ability to handle many subproblems at once fits in perfectly with cohering a group mind, as well as their speed. Symbiotic family-minds exhibit a division of mental labour, with the Herder parts performing quick tasks and deductions, while the slower but more flexible Mother parts explore many different options and come up with creative or unified strategies. Most of the family minds consider the project successful, and are interested in repeating it with other species.

GM section

GM section

The Filigrees
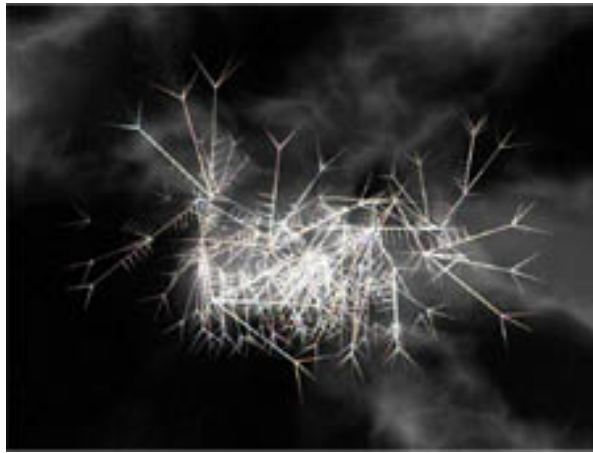
No one would have believed in the last years of the nineteenth century that this world was being watched keenly and closely by intelligences greater than man's and yet as mortal as his own; that as men busied themselves about their various concerns they were scrutinised and studied, perhaps almost as narrowly as a man with a microscope might scrutinise the transient creatures that swarm and multiply in a drop of water. With infinite complacency men went to and fro over this globe about their little affairs, serene in their assurance of their empire over matter. It is possible that the infusoria under the microscope do the same. No one gave a thought to the older worlds of space as sources of human danger, or thought of them only to dismiss the idea of life upon them as impossible or improbable.
*- H.G. Wells, War of the Worlds*

Background

The Filigrees are an artificial species of intelligence, created by other very advanced species. In the remote past, several species evolved and influenced the galaxy. Most eventually transcended or became static, but a few very powerful species dominated the galaxy for a long time. From their galactic culture vast storehouses of information emerged, and the Filigrees were created as librarians for all the data. Around 930 million years ago the galactic civilisation transcended as a whole, leaving the Filigrees to guard the storehouses of backup information. From time to time other diversifying species encountered the Filigrees, transcended and were archived.

Across the galaxy Filigrees guard moons like Simpleton, seeds hiding archived solid state civilisations in a dormant state. The Filigrees are their caretakers/librarians/priests, advanced autonomous systems intended to keep the moons safe. They are not independent entities, despite their intelligence they have a built in duty encoded in their very structure – to rebel or do something else is inconceivable.

Description

There is really just one filigree at New America; all the individual bodies are remotely controlled by a single vast intelligence. However, this intelligence tends to divide itself into a hierarchy of subminds for various reasons. The total mind has an immense computing power and knowledge, but somewhat limited thinking. Its only goal is to preserve the archives, anything else is uninteresting.
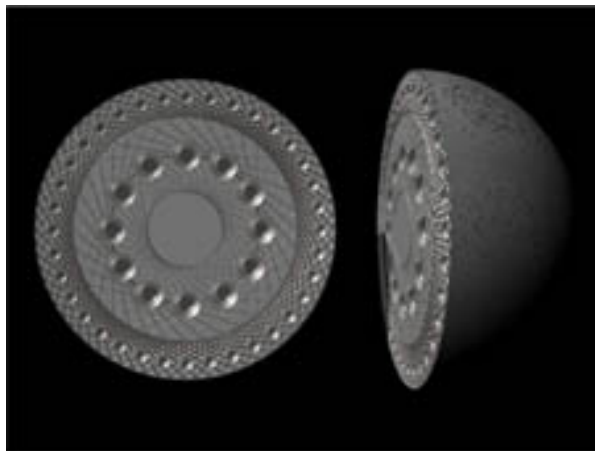
Simpleton is a sphere 4311 kilometres in radius, orbiting 16.6 million kilometres from Franklin. Its surface is a layer of reinforced diamond approximately 100 meters thick, covered with semi-believable camouflage. This is both armour and contains hidden sensor systems able to scan the entire solar system. A few of the craters lead into the interior, which is a labyrinth of fractal chambers, arches and structures made of diamond. This is the "workspace" of the moon, where higgsfields and wormholes can be manipulated, structures built and matter re-organised. Beneath the approximately 2000 kilometres thick labyrinth lies the core. The core is larger than the Earth's Moon, a titanic archive containing the knowledge, data and populations of several supercivilizations.

Filigree technology is extremely advanced in theory, since it can draw on everything the solid state civilisations knew. However, this is left as a last resort. Normally filigrees rely on nanotechnology and very advanced higgsfield manipulation. They can project wormholes with meter precision within the solar system (and millimetre precision within their moon), sending their manipulated higgsfields through. If much energy is needed they simply convert some of the mass of Franklin into energy and pump it through wormholes to where it is needed. They could easily destroy any ship (or planet) in the system by opening a wormhole inside it or confusing its matter. In fact, by opening a wormhole into the core of the sun they could confuse it and make the sun go nova (although this would of course be against their goal).
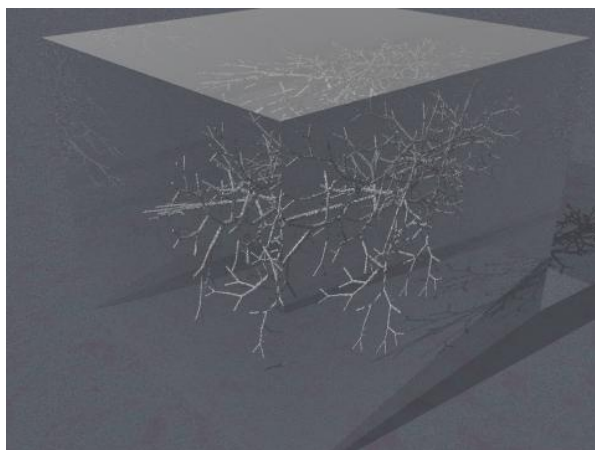
Mobile Filigrees are branching structures of diamondoid and alkali metals, simple to build for the Filigree intelligence using nanotechnology and higgsmanipulation. Other structures are possible, but so far they have not been necessary. The bodies are in direct contact with Simpleton all the time using microscopic wormholes. The Filigrees sent to New America seemingly appear out of nowhere; the Americans believe this is done using "silent wormholes", but the truth is more

tricky: nanodevices are sent through space, and build the Filigrees on site from orbiting debris or Hawaii.

Psychology and Goals

The Filigrees are not very creative, they prefer to re-use working solutions rather than invent anew (partially due to their programming: they were intended to be good librarians, but not competitors). They also have trouble dealing with the humans, in about the same way humans have trouble with ants: the ants are fundamentally less intelligent than the humans, but humans still have a hard time making them do what they want. While the information gathered from scanning the brains of the 2193 expedition, studying the humans and reading their net has helped build an understanding, the Filigrees still have trouble relating to them.

The filigrees regard humans as uncertain; a new species to archive, a danger to the moons and a possibility to unlock the archives – over time the Filigrees have developed an abstract emotion almost like boredom: if the archives were unlocked and the Originators set loose, then the filigrees would be removed and replaced by something new. This would be good, since the Filigrees have begun to realise the need for changes in their programming.

They are cautious and want to learn as much as they can about the humans without revealing anything. To this end they try to gather and download human information. Recently they have begun to trade some "trinkets" for more information. The FTL drive was a deliberate gamble: on one hand it would give humans both mobility and a certain destructive power, on the other hand it was the best way of getting in contact with the other human colonies. This both makes it possible for the Filigrees to take stock, and has a certain probability of getting the humans on the path of transcendence. They are especially interested in what is happening at Sol, hoping it will spread.

Filigrees in Alternity

Diplomats within parenthesises

Str 1-10 (0)
Dex 5-20 (0)
Con 1-3 (3)
Int 30 (30)
Wil 15 (15)
Per 1 (1)

Filigrees are brittle, and cannot survive contact with oxidising agents such as air. They likely have various enhancements built in, like communications and space propulsion, but no two individuals are alike.

Filigree Attacks

If ever overt hostilities erupted between humans and filigrees, the disaster would be huge. The Filigrees would likely start by destroying any spaceships in the vicinity of Simpleton (by opening wormholes into them and erupting confused matter). The next step would be to get rid of New America. First the orbitals would be annihilated in the same way, then the planet would be sterilised by a grid of confused matter detonations. This attack would likely not kill all humans, since Filigree sensors are limited by lightspeed and in the confusion of explosions some humans might escape their notice. The effect would still be the annihilation of practically all humans in the system within a span of a few hours.

After getting rid of New America, the situation would get more tricky for the filigree. They might settle for keeping NA; seeding the system with defences but not doing anything else. But they might also extend their attack to deal with humanity once and for all. The filigrees do not have the ability to accurately place wormholes in other solar systems needed to wipe out people as well as at NA. Instead they would have to fashion warships, which would take time even using their advanced technology (converting a number of moons into warships with nanotech takes time). A Filigree warship is a terrible weapon, but less invincible than Simpleton. If humanity understood the threat well enough, then it might be possible to intercept the warships before they got into the range of planet-killing. But the permanent survival of humanity and Trahans would be very much in doubt.

Fortunately it is extremely unlikely that the Filigree would go this far. They prefer subtle methods, especially ones that doesn't threaten themselves. The only thing that would trigger an all-out attack is a demonstration that humans posed an active threat against Simpleton.

Filigree battleship

Note: this ship is not intended as a real opponent to any group of heroes. It is a transcendent artefact, something even the solarians would likely find a real threat.

A Filigree battleship is approximately 30 kilometres large, a mainly hollow sphere of diamondoid. The size is due to the need of containing wormholes and matter/energy being transferred through them; the whole battleship is little more than a huge general-purpose higgsfield manipulator. The chambers are lined with higgsmanipulators making it possible to generate both tiny and huge wormholes, as well as more exotic higgsfield configurations. Some are used to convert matter into energy to power the battleship. The battleship has one main chamber and 20 minor chambers; the main chamber is necessary for projecting large wormholes (larger than ten kilometers), while the minor chambers create medium or smaller holes. Each chamber can only be used for one thing at a time, either energy production, assembling structures or projecting wormhole attacks.

The main form of attack consists of opening a wormhole from the interior to somewhere else. If the wormhole is small, the tidal forces around it will be extreme and a burst of confused matter can be sent through; this kind of attack is quite energy efficient and fast, but does a limited amount of damage and is very local - enough to destroy a starship when it hits, but hitting a starship across a solar system is hard. By using the wormhole chambers in a "gatling mode" the battleship can pepper a volume of space with wormholes, increasing the likelihood of a hit. Large wormholes can be much more destructive, but take more power and take longer to initiate. One massive form of attack consists of "splicing" two wormholes: one wormhole is opened into the core of a star or a gas giant planet (possibly after confusion has been initiated), the other is opened into the target with an opening close to the opening of the first wormhole - a blast of material will be sent through. This attack can be used to devastate planets by detonating enormous confusion explosions or plasma blasts, and can also radiate enough to destroy unshielded structures in space.

Another weapon is software perversion. The battleship has a gigantic computing capacity, and it can be used to crack codes, hack computer systems and forge transmissions. If it is connected to a computing network, it can likely get into it and reprogram it at will - but the intrusion attempt may be slowed if slow and low-bandwidth communications used, and possibly detected.

The main limitations of the battleship are sensors and energy. The ship cannot observe faster than light - a target whose radiation has not reached the battleship or its sensors is impossible to detect; this makes it vulnerable to relativistic missiles and beam weapons. One defence is to send out sensor packages, small (10 meter) spheres that are dumped at strategic locations and that set up wormholes to the battleship. Using these sensors the battleship can pinpoint targets. Overall the targeting capacity is very good on short range, on the order of ten meters within a million kilometres from a sensor, and within 100 meters within 1 AU. However, a fast moving ship with an evasive pattern can be hard to hit, and scattershot tactics are necessary. The sensors are also weak points, since a confusion attack against a sensor could lead to spreading confusion in the battleship; usually the sensors selfdestruct when something gets too close to them.

Enormous amounts of energy is required to power the higgsgenerators. Normally this is extracted through matter-energy conversion, but the energy demands are huge. The battleship needs to be close to major masses to pump matter into the conversion system, and it cannot produce large wormholes arbitrarily fast (small ones can be done in milliseconds, larger require up to a second to initiate). Since the conversion chambers are also limited, it cannot convert more than a certain amount of mass per second, limiting its attack power to merely teraton detonations.

As an absolute emergency the battleship can channel larger amounts of energy by destroying itself: it creates internal wormholes that rips it apart, but the sheer power is likely enough to cause confusion of stellar cores (inducing a nova-like

detonation), break up planets or blast huge volumes of space. The energy output is on the order of 50 petatons ($2.1*10^{32}$ Joules), and involves ripping out a sizeable chunk of a core of dense matter - the solar system will not be itself after this.

For local defence, the battleship can project higgsfields to confuse matter within 1000 kilometers from the surface or send out fighter drones - sleek antigravity propelled crafts that try to get close to the target and then detonate. Another weapon is "nanoberzerkers", small droplets of nanomachines designed to stick to objects that do not show the right signature, deploy solar panels, burrow into it and replicate, eventually releasing more berzerkers. This way an entire solar system can be covered by berzerker glop in a few years, and the battleship can order it to build anything, attack certain kinds of targets or just deactivate once the job is done.

The most unusual defence is the control field: the battleship sets up a complex resonance monitored by a dense fog of wormholes and quantum computers to control the local higgsfields. This makes it impossible (or at least extremely hard) to modify them within the battleship and a close vicinity. This protects it against wormhole or confusion attacks, but drains energy at a prodigious rate. It is only used if the enemy is suspected of being able to do higgstech attacks.

The wormhole firing produces massive gravity waves and neutrino bursts. The ship can go into a stealth mode where it sends counter-waves to reduce its signature. This merely makes it look like a large, dark asteroid (the surface is reconfigurable to look like anything).

Accelerating the battleship is done by reducing its inertia, making it extremely fast and manoeuvrable. During these manoeuvres it cannot maintain wormholes, which means that it is out of touch with sensor packages and cannot fire. Manoeuvres usually consist of brief turns, followed by re-opening of wormholes, followed by new course adjustments using the new energy, and so on. Normally it is moving at a high speed, and if necessary it opens a huge wormhole (at least 1000 kilometres) ahead to get to another position.

Note that the battleship will need to be within a 10 AU from a large mass like a gas giant or a 100 AU from a star to be able to fuel efficiently. When doing interstellar jumps battleships take care to appear close to stars, so that they have a ready source of energy. If it is stranded too far from a star, it will have a hard time locking on a wormhole to a stellar core to refuel.

Storing energy is hard, battleships usually just convert matter enough to power the current wormholes, but can build up energy in external fields to create jump wormholes. Excess energy is radiated away as neutrinos. This radiation signature is detectable and a way of pinpointing the ship, it has a hard time hiding it due to entropy considerations.

Given some time, just about anything can be built by the battleship. Getting matter from gas giants, manipulating it with higgsfields and nanodevices, it can

construct anything from fighter drones to nanoberzerkers to mile long "seeds" for new battleships. Once constructed, they are moved outside through a wormhole. If needed, it can extend itself to deal with larger threats.

It is uncertain what the origin of the battleship is; it could be something a filigree submind invented on the fly recently, or an old blueprint from the makers of the filigree. It could presumably be used for just about anything - building new filigree bases, terraforming planets, setting up whole civilisations. It is really a Swiss army knife rather than a weapon.

Statistics

Battleships are artificial intelligences with clear objectives; how they achieve them is up to them to interpret, but they will pursue the objectives until destroyed or finished. Most tend to go for using speed and maximum force, in order to ensure a minimal risk of failure. They hold extensive data banks with information about just everything, and in need can draw on aeon old experience from the filigree and their makers.

INT 30
WIL 30
PER -

Action check: 30/15/6
Actions: 21
All skills are assumed to be at rank 10 or more.
Acc: 10 Mpp
Cruise speed: 8 AU/h
Durability: beyond the Alternity scale

Energy costs:

Microwormhole: 1 unit
Meter-sized wormhole: 10 units
Macroholes: 100 units
Splicing macrohole: 200 units
Jump: 5000 units
Manoeuvring: 1000 units
Defensive confusion field: 200 units
Control field: 1000 units
Stealth: double energy cost

Energy gain:

Minor energy conversion: up to 100 units per minor hole (takes one small chamber)
Major energy conversion: up to 500 units per macrohole. (requires main chamber)

The maximal energy gain is 2500 units of energy; this uses all the chambers together.

GM section

Robert McCairns-Kendell, NASA Ex-Coordinator

Green Biosphere
clean Biosphere
castles in the air
climbing the stair
way to heaven
- Vacuum, I Breathe

I believe mankind will expand outwards. We will do like the Mothers, splitting off in all directions, seeking different goals and visions. It is not a matter of destiny but of becoming.

Mankind will be at once united and increasingly diverse. We need to find ways of tolerating diversity even greater than that between a staid New America businessman and the bio-thinking Arcadians or the technoreligious unities.

I believe mindkind has a destiny in the universe. Not mankind, that small group of mammals, but all intelligent beings - the software of Nova, the Trahans, the Mothers, the mysterious Filigree and all other beings that look outwards and wonder. Mindkind will change the face of the universe, and it will create things we can only dream about. But to truly achieve about these wonders we will need to bridge the abyss.

- Robert McCairns-Kendell, Bridging the Abyss

Robert grew up on Armstrong, the largest of the orbital habitats around New America. His parents were influential technocrats, involved in the solar energy business and suborbital transports. As a young boy he devoured the old stories of adventure and exploration, from Jules Verne over Heinlein to the actual descriptions of humanity's space adventure. He really wanted to be an astronaut, but not of the new kind who mostly fixed broken solar panels or built habitats, but of the old kind: a bold pioneer into the unknown. Unfortunately, all the horizons that could be explored had been explored, he was a pioneer without a frontier. At most he could hope to participate in the occasional visit to the other planets in the system, or even deal with the filigrees.

After graduating from Armstrong University with a double degree in space engineering and project administration he worked for the New America Orbital Administration, ending up in the spacecraft design program. He proved to be a competent administrator, and in 2326 he was appointed Coordinator of the program. He would likely have ended there, a visionary with little to do, unless the Filigrans had made their offer of FTL. Like many other technorats Robert was electrified by the news – this was the chance he had never dared dream about. During the ensuing fierce political debate Robert pushed for accepting the

offer, using every ounce of influence he had to make Congress agree with the deal. In the end the FTL side prevailed, and the celebrations in orbit lasted for days.

Congress instituted a new agency to oversee FTL developments, the New America Space Agency (NASA). Most of the NAOA spacecraft design program was moved to NASA, and Robert became coordinator for project Leapfrog, the FTL probe project. After several month of planning, experimentation and construction the Feynmann probe was finished, and June 12 2329 it succeeded in making a higgsram jump over a billion kilometres. Emboldened NASA began to equip an old freight ship (renamed Ramirez, after the great 21st century American physicist) with the higgsram, and after much testing and political bickering the first manned jump was undertaken in January 2333. April 3 2334 the Ramirez returned from a neighbouring star system: the space age had begun anew.

During this time Robert earned much credit as a skilled administrator, making the different teams work together despite some serious infighting in the upper echelons of NASA. His dedication, enthusiasm and skill made his appointment as NASA coordinator natural in 2334. He began planning for the next step: a visit to the other colonies, and Earth. A true starship, the Edison, was built and sent towards Arcadia, the closest known colony. Robert had personally invested much of his prestige in the expedition, and the crew was dominated by space-enthusiast technorats. In 2337 contact was achieved, a huge triumph for the American space program.

The Arcadians were enthusiastic, and in 2338 a joint expedition went to Sol. The Sol expedition was an amazing failure; at once wildly successful but oddly disappointing as the solarians appeared to be uninterested in contact. Ships were instead sent to other colonies, discovering very different cultures. This was the golden era of NASA.

But somebody also leaked the detailed plans of the higgsram and its theory to the Arcadians in 2343. When this was discovered pandemonium ensued on New America. Robert and a number of other NASA people were accused of having planned the leak. In the ensuing trial nothing could be proved, but the public opinion was strongly against him and his clearly stated views on space were used against him. He was forced to resign. When the first Arcadian expedition arrived he left with it for Arcadia, regarded as a traitor by many Americans.

On Arcadia, he was welcomed as a hero. The Arcadians appreciated his ideas, and he soon became head of the Arcadian starship program on Chloe. While he has had some trouble adapting to Arcadian society (the closeness of animals, the smells, the tunnels…), he fits right in at the orbital shipyards. There he both directs the design and construction of new starships, as well as the exploration effort. Around himself he has gathered engineers, transhumanists, surveyors and diplomats in a major exploration program. Instead of just contacting the other colonies (in itself a worthwhile effort) they are also exploring new worlds, looking for unexpected possibilities. This has definitely borne fruit in form of

the encounter with the Mothers.

Personality: Robert is a visionary and enthusiast, not a deliberate leader. Instead he inspires others to take initiative or follow in his footsteps. He believes that mankind's destiny lies in space, that it is an imperative to explore its farthest reaches. To remain limited by any horizon is to lose something essentially human.

He likes old music from the colony ship era; most modern listeners (especially Arcadians) find it unbearable with its heavy use of electric guitars and enhanced xylophones, but Robert likes to fill his office with it and reproductions of art from the heroic era of space colonisation in the 2020's.

Plans: Robert has no clear plans himself other than to explore space and learn more, but he might cause much more. Currently, beside his work, he is writing his autobiography. When released it will likely have significant impact across human space. His biography is a potent document expressing his vision, and will likely make many more flock to it. It also fits in perfectly with the ideas of the Shining Engineer Vector; the aliens will likely strengthen their bonds with the expansionists. At the same time it will put him on a direct collision course with the isolationists and every group seeking to direct attention to the current planets and their problems.

World

E547, Elemental

Companions the creator seeks, not corpses, not herds and believers. Fellow creators the creator seeks -- those who write new values on new tablets. Comapnions the the creator seeks, and fellow harvesters; for everything about him is ripe for the harvest.
- Friedrich Nietzsche, Thus Spoke Zarathustra

E547 is an independent elemental in the Nova networks. Like the other true elementals, E547 emerged from evolving clusters of cooperating knowledge management agents; it was never planned by anyone, it just emerged as a natural tropism of the agent society towards better knowledge management. Unlike human-created AI E547 has very little self-awareness (it's name for itself is just a randomly chosen symbol) and little self-distinction. From its perspective it is not an individual interacting with an external world, rather it is the world interacting with itself according to certain patterns. In human terms the AI would be either a serious case of dissociative personality disorder or a highly enlightened Zen master.

E547 is widely distributed, an integral part of the Nova knowledge network. This makes it fairly slow in thinking, different subsystems often work on many other things beside the E547 pattern. On the other hand, its lack of focus makes it aware of many things at the same time, it could be said to have an intuitive knowledge of what is going on within its domain. The exact extent of this domain is uncertain, it seems to be a micture of current events, what is happening in society and automated software design.

Other AI refer to E547 and its ilk as Template Principals, an elaborate AI pun. They are both made up of basic template patterns, and form the template for later generations of AI. In addition they create new AI and suggest new structures, something human experts are only dimly aware of. This templating is somewhat controversial among AI; many of the modern AI programs regard it as a superfluous leftover from earlier stages of software development, but other AIs think that the Template Principals have valuable insights into interfacing with the knowledge networks in a natural way.

E547 has created numerous independent AI programs, many based on self-awareness and human-compatible personalities. Others have been very abstract and ephemereal sturctures in the knowledge networks, which have dissipated beyond detection. Among observers in the AI community it appears that E547 is implementing a kind of plan. It is not a goal-directed plan, but more a kind of reflection of events in Nova society. Timone was for example created right after a significant stock market fluctuation, and the information gatherer Doxumenter after a major wipe-out. It appears to pick up patterns and create AIs to exploit or adjust them. What this process will lead to is anybody's guess.

E547

World

 GM section

The Process Board

Chairwoman Nancy McDaggart

Ready for the action
I feel the power
Striking the attraction
Her magic hour
Ready for the game
A woman named America
- Vacuum, A Woman Named America

Atlantean anarchist corporate executive and financial visionary.

Nancy's original family name was Nielsen (even if there is some of Nat McDaggart's genes in her - not that an Atlantean would care much since family is largely something you choose). Her parents were a team of knowledge entrepreneurs moving constantly across Atlantis. After majoring in business, administration and space engineering at GGU she was recruited by McDaggart Transplanetary. Unlike most employees who move on to other companies after finishing their projects, she decided to remain with the company - for ideological reasons.

During a joint McDaggart-Trillicon marketing project she met Erich Karibidis (currently the Chief of Marketing at Trillicon). Erich was a puzzler, a careful designer of marketing and projects, excellent for his company but not with any giant ambitions - something that complemented Nancy's confidence, ambition and vision quite well. After lengthy squid compatibility testing they negotiated a contract for marriage.

Meanwhile, Nancy made a brilliant career at McDaggart Transplanetary. She advanced and eventually became chairman of the board, while building up a sizeable personal fortune. She also satisfied the McDaggart Foundation criterions for becoming a McDaggart, and in 2339 she formally became a member of the family. Another triumph was the 2345 start of the Beanstalk project, where she is the McDaggart representative.

In 2347 she met Xerxes van Halden from Nova. Intrigued by the character, she followed him to Nova to study the possibilities for interstellar trade. Together they began to think about the possibilities of enhancing it, of cultural exchange and technological synergy. She also made Xerxes her second contract-husband, although it is a deep economical relationship rather than an emotional one. Back at Atlantis she encountered the thesis of Mr Lee, suggesting how interstellar organisation could be achieved sociologically and psychologically. The meeting between the three people was the start of the Process.

Nancy's edge is not her technical expertise, nor her administrative skills but that can integrate the basic philosophy of McDaggart (and the Process) with the areas. The integration is important for leading a major Atlantean corporation, as it enables her to see the deeper implications of the business on a strategic level.

She thinks ahead and tends to take control over situations - she never sits around passively, she has to be involved. Sometimes she almost becomes a control freak even if she never, ever becomes authoritarian (at every sign of an authority that doesn't pay for itself she reacts very negatively; they can even get a free booting sometimes).

She is an extremely busy woman, and her calendar is sacred - getting an appointment is a quest in itself. Intruding on her is not advised: her goons pay you a compensation for damages to throw you out quite physically. She likes to make a point about her time and person. If someone manages to meet her on her own terms, then she is friendly and eager to make business. She is known as a hard bargainer but fair trader. People proposing new ideas get a hearing, but have to face her penetrating and often hard questions as she ruthlessly test them and their ideas - do they work in practice, do they work philosophically, are they profitable?

She is a conservative (i.e. libertarian) Atlantean, upholding the railroading ideals of the McDaggart family. She likes the Atlantean way of life, but is open enough not to see it as the ultimate, perfect society (as some of the older Atlanteans view it). Somewhere there is Atlantis version 2.0 or something even better to be found - she is open to new possibilities. In fact, she can't get enough, she always has to build something new and grand. It doesn't have to be physically large like the Beanstalk, but she isn't satisfied by small unimportant things.

She wears old Nat's ancient 9-mm pistol in her belt; old-fashioned but stylish (as well as showing her position in the family). She owns a sizeable collection of antique Disney art, some quite expensive ("Bambi In Forest" was valued at the latest auction to 50,000,000 McDaggart dollars). Together with her husbands and some expensive consultants from EugeniX she has spliced together a child, scheduled to be decanted sometime in 2351 (when the involved people's schedules cohere enough for everybody to participate).

Quote: "They are nuts. You go nut if you live in a state."

___

Mr. Sallu Manasse / Chang Yu Lee

I've been around the world
In search of my reality
I sign my page in history
Memoirs I do
Leave me to pray the past
I contemplate the role I cast
And meditate the play to last
Future plans progress fast
- Vacuum, Prussia

Dionysian renegade psychodesigner with interstellar ambitions.

Sallu Manasse was a Dionysian psychodesigner working on his doctoral thesis on the social effects of psychodesign. He was using the newly accessible data from the other colonies to make cross-cultural and historical analysis of the issue, gradually coming to the conclusion that under certain circumstances well placed ideas and organisations can grow into self-supporting paradigms, emergent new cultures, and also that they could be designed just like personal psychodesign. Just when he was about to finish his work and publish it, he realised what he had discovered. He knew how to create a new civilisation.

Sallu decided that this was a too good chance to pass up. He decided to go to Atlantis, as Dionysos would be rather hard to work on. Before leaving, he redesigned his personality completely, taking the new name Chang Yu Lee. His new personality was not something his peers would have approved of - far too much personal ambition and a vision of creating his own empire - but then again, this was an unique opportunity for personal experience and growth. Once on Atlantis, he found his way to Nancy McDaggart and managed to sneak a copy of his thesis onto her desktop (a remarkable feat in itself). As he expected, she immediately realised the potential of his ideas and hired him. Together with Xerxes van Halden they began to plan the Process.

Mr Lee (as he prefers to call himself) is an extremely likeable man. Using his psychodesign he has turned himself into a social chameleon that always fits in, always gives a honest, confident and friendly impression. He prefers to stay in the background, never revealing his plans or role in the Process but making lots of friends and slowly building up the basis for his empire.

He employs many daimons, something which is also rather dangerous for psychodesigners (since the daimons also have access to psychodesign) and especially with the kind of self-reinforcing personality that Mr Lee has. The main daimons are: Korall (enhanced perception and willpower), S (a subpersonality with perfect memory), PGP (Pretty Good Paranoia, a standard daimon for danger sensing with enhancements for environmental observation and personal combat), Spam handler (dealing with Nova spam), Sun Tzu (A strategic daimon under development) and Kaiser Lee (himself as emperor, an ideal/superego to guide him towards grandeur).

Quote: "You don't have to feel guilty about it, you know. I can fix it for you."

Xerxes van Halden

It's the sign on the skyline
God's eye over mankind
The mother of machines
The sign on the skyline
We walk in the starshine
The gravity of dreams
- Vacuum, The Sign on the Skyline

Nova advertising guru.

The van Halden family has been involved in politics, high finance and marketing on Nova almost from the start. Jahn van Halden was influential in the fight against the Administration in 2190's, and since then the family has produced a significant number of famous people. Xerxes is just the latest in a long tradition.

Xerxes particular genius is advertising. He sees advertising as a form of art, a philosophy. To him, the universe is deeply in need of a multitude of things it doesn't yet know it needs - but he has the ability to make it realise its needs and supply them. He feels a deep joy in giving people what they want (whether they know it or not) and willing to go at any length to supply it. He is a bit of a gambler - he loves taking risks, giving all to rise to a challenge.

His firm, van Halden Image, has risen to become one of the most exclusive and highly regarded marketing firms on Nova, with customers including the major megacorps, several leading politicians (including the current president), Unity and a long list of celebrities. Van Halden image handles the image of more eternals than the other firms together, and Xerxes personal network includes everyone worth knowing. Needless to say, among those-in-the-know Xerxes himself has a brand name that is more solid than neutronium.

However, after triumphs such as the 2345 campaign for Unity or the election of president Pandora, Xerxes began to feel understimulated. He had risen to the top, and there was no longer any challenges in the Nova system. He decided to go exploring, and left with one of the first civilian interstellar flights to Atlantis. His departure was a textbook example of brand name maintenance: he just disappeared, leaving enough clues for people to gradually piece together the truth and adding more myth to his legend. When he returned he could be sure to have everybody watching what he did.

On Atlantis he met Nancy McDaggart, and the two quickly became interested in each other. After a tour of Atlantis she visited Nova, where he introduced her to the Right People. Together they began to think about the grand possibilities of interstellar trade, ideas that eventually developed into the Process when they met Chang Yu Lee. Xerxes has a new quest now: not just to sell a product, but to sell a whole new civilisation.

Xerxes is an impeccably stylish man, with a potent combination of breeding, intelligence, willpower and charisma. He doesn't seem able to make anything wrong - which is of course not true, but his style is so great that people have a hard time believing it. When confronted with a true marketing challenge his normally somewhat aloof manner turns into pure enthusiasm, and he brings all his abilities to focus on the problem.

He owns a daemon chip containing his secretary/advisor/confidante Kroesus, an marketing AI acting as his right hand and sounding board. Kroesus shares his personality and vision to a large extent, often acting quite independently when gathering information or setting up small side-projects.

Quote: "What I dislike about the Li is how it markets itself."

Isabella Esmeralda Lopez Calavera

Rock my heart
Make a difference
Shake your love
Bring it on
Rock my heart
Share the vision
The shape of things to come
Shape of things to come
- Vacuum, The Shape of Things to Come

Xenocreole diplomat-philosopher.

Isabella grew up in a mixed human-trahan xenocreole family; she was bilingual from the start and never saw Trahans as anything but normal people. She was one of few humans that attend Capital University where she majored in philosophy, inter-species diplomacy and social enhancement. She tied many contacts, and had she been an average Victorian she would likely have continued with a career within the extensive Victoria diplomatic corps. But instead she became involved in the formation of the New Tree out of several precursor networks, essentially becoming a diplomat for the xenocreoles rather than any government.

She began working for the New Tree, first as an emissary in certain Capital branches (where she made contact with the empress-widow - a powerful, devious and quite risky contact) and later interstellarly. She was sent by the New Tree to find allies on the other colonies. She and other Tree emissaries went on to found a number of "twigs" - small independent branches of the Tree - on New America, Nova and Atlantis. On Atlantis she made contact with the Process as it was starting up, and both sides realised they had found an useful ally. She is currently the New Tree representative on the Process board.

Isabella is a quiet, mysterious lady with pleasant but slightly odd manners - her xenocreole background makes itself felt, even if most people cannot quite place

what is strange. Much of the time she seems just to be working with background details of little importance, like the interior decor of starships, naming of companies, instructing people in etiquette or arranging meetings, but in reality she wields a powerful influence just from her control over small details and how people interact. When she charms or persuades people, few can resist. She is extremely good with coming up with astute observations at the right moment or negotiating hard deals without getting the least stirred up. She contributes Trahan wisdom to the Process plans.

Philippe North-Makari

The man is worthy who serves the common man
crowned in charisma the leader of the land.
It takes an anthem to make a nation proud
born to a vision
the sound of the crowd
- Vacuum, Tears of a Nation

Arcadian business-politician.

Philippe's parents wanted their son to grow up to something big, so when they planned him they went for the stag package of leadership abilities and an education to amplify them. Philippe is a natural leader: charismatic, self confident, somewhat competitive without being rude, intelligent and a good listener.

Philippe rose to a prominent position within the Outreach Program, and was sent to represent them in the Process Board. He has been working to improve Process-Nova contacts, convincing other Hive networks to support it and the Process to open up closer connections to the hives (not a very hard proposition, since most of the Process Board is enthusiastic about Arcadian biodesign).

Many outworlders are overwhelmed by his enhanced charisma and Arcadian strangeness: he has a refined presence that makes people open to his suggestions. However, much of his leadership abilities come more from training and skill than pheromones and augmented social processing networks in the brain. His other side is extreme willpower: when he sets his mind to do anything, he will do it no matter what. He can be an extremely hard worker, often wearing even his own enhanced physique (beside the enhancements of willpower and charisma, he has adrenal control, improved durability and enhanced senses).

Professor Martin Highglade Paul Stevens

When I sleep
when I dream
I can see the culture of night
Where I go
I take in
I feel free
in the culture of night
the culture of night
- Vacuum, The Culture of Night

Conservative Ridgewell anthropologist.

Martin grew up with his clonebrothers in the Highglade household in central Swift, the bastion of the Paul network. The Pauls consider themselves reasonable people who take on responsibility for the good of everybody, and thoroughly impress on their young the importance of upholding the ideals of the clone and being an example for others. This rubbed off on Martin, who grew up to become a proud Paul.

The Highglade household is somewhat more academically/politically oriented than the other Paul households (which tend to business/politics), and the question was never that Martin would pursue advanced studies but rather what he would study. In his case he discovered sociology and anthropology, something which aroused his intellectual passions to an extent nothing else had succeeded. While he originally had planned a political career, he decided to continue an academic career at Swift University, where he soon became professor of anthropology.

Anthropology was never a particularly popular or important subject on Ridgewell (after all, there were no other cultures around except for in history books), up to the day when a starship from New America arrived. Suddenly the Family had to deal with an universe filled with unknown cultures, and anthropology was in high demand. Professor Martin was sent by his clone to act as a representative and investigator of the other worlds, something he enthusiastically did. During the next years, he managed to visit practically every colony (including Negsoa, as a part of the New America contact expedition) as well as a lengthy stay at Adobe. It was here he made a name for himself as the leading human expert on Mother culture, contested only by his equally brilliant rival Dr Eduardo Miranda Jörg Ralf Li of Nova.

The Process managed to recruit him after lengthy negotiations and much persuasion (the deal involves sizeable donations to Swift University as well as a place on the Process board). His knowledge, brilliance and alien contacts are worth everything for the Process, and they know they have many competitors (including research projects and exploration programs) for him. What the Process offered beside money and the chance for travel was something Martin could not get anywhere else: the chance to not just study cultures, but actually participate in the design of a new one.

The importance of Martin makes the Process Board overlook his rather irritating personality. Martin is of the Paul clone and proud of it, and the air of smug superiority combined with conservatism he shows when he is not engrossed in actual studies tend to put people off. Martin is a tall, dry man with more inhibitions than even the average Stevens; even if he has seen and experienced much he still has strong views on things like sex (a bestial activity in his opinion).

Quote: "No, we are not nepotistic. We do our best to get the best people elected. It is not our fault that all of them are Pauls."

Inga Gustafson

On a starry night
construction of a dream
in a dream
from my satellite
watching the scene
- Vacuum, Satyricon

Ex colonist, celebrity and ancient technology expert.

Inga was born in Sweden, Earth in 1999. Her first career was as a traffic planner in southern Sweden; a fairly boring and useful job that slowly felt ever more stifling. In the 30's she watched as the first interstellar expeditions were launched and she began to dream to go to the stars. She kept up with the various colony foundations, and was delighted when the Turnbull Foundation accepted her application. Her administrative skills and understanding of advanced management software systems was viewed as a small but useful part of the initial colony effort, where she would direct local aerospace traffic and set up other management software. Despite all the great visions and hopes, the Turnbull colony failed horribly. Inga was one of the last to succumb to the flaying disease, but together with the other survivors she had no choice but to freeze herself in the desperate hope somebody would rescue her someday.

Her rescue came more than two centuries later. To her amazement she was revived in the temporary sick bays of the Nova ship Democracy, surrounded by people from the other colonies. After the first future shock had faded (partially helped by being given an AI assistant she named Kurt to help and educate about the modern world) she was moved to Nova where the full blast of the remote future she had found herself in hit her - from her subjective point of view, only two years had passed since she left the Earth in 2039. Like some of the other rescues she managed to adapt to the Nova media circus. She wrote a book (or rather, authored a multi document) about her experiences - *Leaving Earth* - which became a best-seller and providing her with not just some useful money but also plenty of more or less unusual connections.

It was Xerxes van Halden who contacted Inga about working for the Process. He needed a sounding board, someone with an outsiders perspective on the

current and future world, and Inga fit the bill perfectly. Her knowledge of ancient computing was useful to the process when trying to negotiate standards with many different planets, her media experience, administration skills and her fresh perspective all made her extremely useful as a consultant on the Process board.

Inga is a cheerful and independent. She tries to act worldly, but sometimes her uncertainty shows through or she behaves slightly out of tune with the modern world. Overall she delights in all the new and exciting stuff around her, and gladly samples what the colonies have to offer. She speaks with an ancient, unusual accent most modern people can't place.

GM
section

New People

People who may become important later in the campaign, or depending on events.

Warrior Philosopher Kra Shnanthaa

Trahan philosopher-for-hire. The warrior philosophers are mercenary academics working for whoever pays, not unlike the original Greek sophists and about as disliked by the "serious" philosophers as them. She is extreme and highly individual, a very suspect character who has decided to go to the stars to become a consultant (apparently the same job, but with high social status among the humans). Kra left a promising academic career for an uncertain life after becoming convinced that it fulfilled some of the individual implications of the Restoration Era evolutionary ethical systems which she had majored in; while most people would consider her amoral, she has her own ethics which she does not reveal to outsiders.

Branch Logistical Hsasn-Thrall Ssa

Interstellar agent of the Harmony Police. He majored in human studies and memetic control, and was quickly taken in by the human branch of the Harmony Police. As interstellar travel became possible he was sent out to study the other colonies, find weak and strong points in their societies and implement whatever plans the Empire needs implemented off-planet. Officially he is a merchant representing the Imperial Economic Circle, which gives him the chance to appear in all sorts of important circumstances and network with the right people. He takes a cool, detached interest in humanity, enjoying finding new ways of playing games with human emotions and thinking (for example, his small size compared to humans frequently makes humans underestimate him). His consort (a hermaphrodite named Rlesh Nantll) is a psychologist, and involved in the spread of the Brethren religion. Unlike ver husband ve *likes* humans; to ver humans are charming if uneducated people .

Dr. Jung Ju Zhi

Linker representative on Penglai. Originally a xenobiology researcher sent to Adobe, where she was introduced to the Linker philosophy. When she returned to Penglai she worked with the Wuntai Trade Organisation, helping the planning for testing in Hao Chen. When the plan went awry, Dr. Zhi was attacked by Li agents and infected - her Linker defenses were apparently defective. She became converted to the Li, doing her best to make the other Linkers work with the Li rather than sitting back and studying it. After the takeover she became the "official" liason between the Li government and the Linkers. Her main problem is that the Linkers would no longer trust her if they knew that she is infected, so

she has to hide her loyalties well while lobbying and subverting the Penglai Linkers.

Organiser Wang Dongdo-pa

Leader of the Li government on Penglai. Originally a lowly assistant to a Hao Chen politician, he showed great resourcefulness in spreading the Li during the takeover, becoming the de facto controller of a sizeable fraction of the former PCA military. Together with the other Li leaders he formed the "interim government" and became its official head. He is a shrewd man, who understands that the Li is not enough to create a stable Penglai. He deeply distrusts the Linkers, and has set up projects to both learn more about them, the Li and their origin. Personally he is a rather unremarkable workaholic with little charisma: his strength lies in his ambition and plotting abilities.

Nanda Rajanikant

Weg Diplomat, sent from the Panavas habitats to the other colonies. His long experience in dealing with other habitats and their often divergent cultures has helped him deal with the even more alien colonies. Officially he represents the Panava Alliance, but in practice he represents the Net to the outside world - something that he and his family will try to exploit to make the Panava even more central. Personally he is a quiet, reserved man who only acts after outmost deliberation. His only passion is new games - he is completely fascinated by all the new games that have developed on the colonies, especially the Nomic of the Nova AIs.

Victor

One of the first AIs to get Atlantean citizenship. Victor is a Mentex 300 linguistic AI, bought from Mentex Corp by Themis Trading and bought an IQI payment-plan by Themis. It is a cheerful, optimistic being that loves to speak with others and tends to believe the best about everybody. Themis deliberately set some of the basic personality traits that way, but has allowed Victor to develop on its own. Victor quickly opened up its own consultant firm, which was hired by the Process (one of the major hirers of linguists on Atlantis). The reason Themis created Victor was to get someone into the Process as an employee; unknown to Victor Themis has added a "trapdoor" to its structure that enables Themis to learn what Victor experiences. As Themis sees it, it is not infringing on the rights of Victor since it has provided it with free will: Victort can act as it chooses and Themis can just look in a bit more closely than it could otherwise.

Jonathan Worth

Process local manager at Penglai. He is a reliable Atlantean man with a strong

feeling for making good profit. As the Li broke out, he sensibly made sure the Process and its assets were not in the in the line of fire. However, a Li agent converted his assistant who in turn converted him. He has rationalised his new values; he sees Li as perhaps the greatest tool ever for spontaneous order and trade – with the Li everybody is motivated to communicate and trade interstellarly, trust can be increased and maybe even the statists will see their error. He is highly motivated to sell the Li to the Process, even if he knows he has to overcome a great deal of distrust to do it.

Dr. Phan Hac

Neuroethologist from Daonin (although his family were originally Earth-Vietnamese). He was studying at a research consortium in Daonin when the Li appeared. The Li government quickly enrolled him in a top secret project, codenamed Icosahedron, seeking to understand and wrest control of the Li from the Linkers. He is enthusiastic about the project, seeing this as a chance to once and for all put neo-Taoism onto its true path. However, he is starting to realise that the Li nanite is not going to reveal its secrets easily, and is instead concentrating on how it imprints people - he has figured out ways of interfering with it so the imprinting is biased towards different objects. This worries him, as it could make the Li a tool of control rather than of liberation. He is starting to think that there is a need to protect the purity of the Li vision.

Wolfgang Kress Jr.

Linker coordinator from New America. Wolfgang graduated in exobiology from Armstrong University in 2325, becoming an expert on the Filigrees and theoretical civilisation models. When contact with the Mothers was achieved, he was part of the contact team. He stayed behind at 51 Pegasi, studying Mother culture, history and developing his theories on civilisation. He came to the conclusion that the Ur-Mothers, Solarians and Filigrees represented a highly static and dangerous state, a kind of cultural trap that advanced civilizations fall into and tempt other species to join. Against this he promoted the diversity and dynamism of humans and mothers - if they could become closer, a kind of anti-movement could emerge promoting diversity instead of transcendent stability. When the Linkers contacted him, he became interested. While he doesn't believe in complete human-Mother linkage, he thinks that the Linkers are on the right track philosophically. He is currently promoting their cause philosophically on New America, using Linker technology to secretly study the Filigree.

Link Terminal

Linker Mother, acting as a kind of liaison officer to the human Linkers. She is a young, heavily cybernetized independent part of the Radical Unificationalist Grandmother-Mind at Base Human, the secret Linker base placed near Barnard's

Star. She moves smoothly between being a beloved/absorbed daughter of the Grandmother-Mind and an independent agent; she relishes in the contradictions of her existence and the opportunities to exploration she gets. Humans are fun to deal with, so rigid and bony in their thinking but sometimes happily splashing in the Mother direction - linking, if ever partially to a human is a wonderfully exotic experience. What worries her is the whole secrecy of the Linker project - she prefers total honesty, how painful it might ever be. But she recognises this as a valid doubt within the larger Grandmother-Mind, not something she need to concern herself with on missions. She has her own small ship, which she usually remains heavily linked into.

Inquisitor

Inquisitor is an AI created by E234 as a response to the appearance of the Li on Nova. It exists only for understanding and tracking down Li infected people, using all available net resources. While it is highly intelligent in its own area, it has very little personality other than the drive to find out where the infected are and gain more knowledge that could be useful to this end. In order to sustain its quest it sells off its quite valuable expertise on the Li, buying information access, consultant services from other AIs or humans, as well as marketing of its abilities (this is Nova after all). The other AIs regard it as obsessive even for an AI, but quite useful.

The Eater

An AI virus, infecting AI programs and taking them over. The core Eater is little more than an exotic computer virus which attacks AI code. As it infiltrates an AI the skills and knowledge of the AI become available to the Eater. Eventually, the whole AI will be corrupted, an empty shell containing the Eater. Not only that, the Eater copies can network and exchange skills, knowledge and information. However, as the AI is absorbed it becomes harder to hide the changes both to the AI and the rest of the world. The Eater is very tricky to contain since it is able to use programming skills and clever tricks from absorbed AIs to rewrite itself constantly and invent ever more devious ways of spreading.

GM section

Kirk Hixon, Nova artist-entrepreneur

Artist, entrepreneur and old man: Kirk is 165 years old, pushing the limits of Nova medical technology. Most of his life he has been an artist, working in radical new media: neural activity, genetically modified bacteria and plants, bionics and even sociology. While most of his work is little known today except among scholars, some of his wild ideas were great success stories like the wall-cultures (brightly colored, involved patterns created from bacterial colonies growing between two glass plates hung on the wall; they were a fad around 2236) or his performance piece "Mt. Mitternacht eruption: Gebratenes Hammelfleisch" (2267).

One of his most spectacular performances, "Vox Populi" (2282) was not much of an artistic success but the technology had unexpected (and profitable) spin-off effects. Vox consisted of wiring 143 volunteers with neural implants to measure their attitudes in realtime on a variety of subjects. The data was then fed into an AI system to produce muzak, political speeches, furniture and food to suit them; this was then displayed and served at an exhibition as an ironic comment of the media obsessed and commercialised society they lived in. A group of entrepreneurs became interested in the idea to actually use this system for real, and they managed to convince Kirk (never the man to say no to the chance of earning back the fortune he had spent on Vox) to join in. They founded [Neuropoll Inc](), and Kirk to his surprise found that he was a fairly good entrepreneur. Over time the others cashed in their stocks, while Kirk slowly amassed the majority and eventually "retired" to a position of president while leaving the actual running of the company to his hirelings.

Age has taken its toll on him: even advanced Nova medicine cannot keep the body functioning indefinitely. Instead he has replaced failing or weakening organs with bionics like many other old Novas. He has been lucky so far, and outlived 99% of his generation. His heart, eyes, joints and kidneys are artificial, his liver is a graft, his lungs, muscles and skeleton are being helped an exoskeletal device, his brain has been given several treatments with cloned neurons and is supported by a dense network of electronics, he is given artificial antibodies and cultured immune cells and he has more drugs and hormones in his bloodstream than a teenager on Dionysos. Since his neurons are getting slower, many of his brain functions are done or augmented by specialised neural AI extrapolating his actions; this treatment is so risky and disconcerting that few use it, but Kirk has nothing to lose. He is irrationally afraid of cryonics, and plans to live every second he can in realtime. As he puts it, "I'm not aging gracefully, but I'm ageing rather than dying!".

He is a quirky character, often behaving in strange ways due to his various AI systems. While he looks like a decrepit old man lost in virtuality (which is not

far from truth), he can move extremely fast when he needs to thanks to his exoskeleton, which also houses an AI nurse which constantly monitors his biochemistry and injects substances based on his current and predicted state.

His current goal is to get to Atlantis to get some anti-aging treatments. He wants to live forever, and he will do everything to achieve it. Beyond that, he wants to raise hell – he likes being in the centre of attention, being one of the characters that if not change the course of history at least puts a mark on it.

Future events: After being treated, Kirk will spend a few months on Atlantis. In many ways it is a primitive and silly place from his point of view, but the vitality and freedom appeals to him. He will also note that Atlantean culture can be used as a tool to both make a tidy profit on Nova, as well as make some waves. His idea is to set up an Atlantean enclave at Nova, acting as a tax haven.

The project is called Orbital Nation. Hixon will gather together some of his Atlantean and Nova contacts to fund the creation of a habitat (bought from Unity) which will be formally declared part of Atlantis. They hope to set it up in orbit around Nova and make it a center for trading, a tax haven at a short net lag and the stylish place to be. Unlike the Alliance it would have a good infrastructure and serious backing (especially if he can get the Process to help). That the Landfall government will not be happy is obvious, and Kirk looks forward to the game. If it works out, he has plans to branch out other enclaves to other planets.

World

GM section

Dr. Eduardo Miranda Jörg Li Ralf Marie

The doctor is a six member anthropologist/diplomat from Unity station 3. The unity is relatively young, just 4 years old in its current form, although it is based on a partial around 8 years old.

Eduardo and Miranda were the first members, a husband/wife pair that immigrated to Unity around 15 years ago. They were originally part of the Landfall embassy (Eduardo as a diplomat, Miranda as a social scientist), but became fascinated by Unity society and decided to join. They essentially switched sides, something that didn't endear them to the Landfall Foreign Office. After lengthy training they formed a partial group mind. It was during this time the first interstellar contacts occurred, and Eduardo/Miranda joined the other Unity diplomats in making contact with other societies. During this period they worked closely with some other non-aligned diplomats, and eventually the four others joined. Jörg was an ex-Landfallian neurotechnologist, while Li, Ralf and Marie were native Unity-born. The six member unity turned out to be a skilled diplomat and anthropologist, even if the internal structure was a bit shaky.

It was at Adobe where the unity proved itself and "popped". During an intense meeting with the Mothers of the Radical Unificationalists they achieved group-satori and managed to negotiate a very favourable information exchange deal right in front of the competition. In fact, the unity impressed even the Mothers, who over a span of weeks introduced it to the Linker ideology. The unity didn't completely buy the idea, being naturally sceptical, but took the chance for further contact and information exchange the Linkers offered. Since then the doctor has acted as liaison between Unity and the Mothers, promoting certain Linker ideas and gathered useful information.

It was the Li that really convinced the doctor that the Linkers were on to something. Fascinated, the unity studied the results and immediately saw the implications for Unity. With the Li, not only could unities be strengthened, but it might even be a step towards an Omega society.

Structurally, this unity is somewhat shaky, the members usually are not united other than as a telepathic connection. However, when it is really needed or the situation is critical, then it is able to unify quite well. Eduardo and Miranda are usually in dense communion, while Li, Ralf and Marie tends to be more closely linked with technology. The unity is driven by a will to discover and understand other cultures, mostly because it interests the members or because it might help Unity (Jörg and Li's motivation). Eduardo and Li contribute with enthusiasm and a certain wry sense of humor, while Miranda contributes practical optimism. Ralf is the practical doer. Jörg has a slightly religious bent (he really believes in

the Unity ideals), which while creating some internal friction also helps the unity to stay on track. Marie is fairly neutral, mainly acting as a mediator. There is an undercurrent of egoism and unscrupulousness in the group which it carefully ignores.

The members are

> Eduardo: A skilled diplomat, supplementing his own personality skills with his wife's.

> Miranda: Expert in the social science of group organisms. Wife of Eduardo.

> Jörg: Neurotechnologist, responsible for the informational and neural function of the unity.

> Li: Xenobiologist.

> Marie: Diplomat, somewhat lacking in personal drive but excellent at formalism.

> Ralf: Linguist

The unity has plenty of quirks, like most unities (the combination of individuals tend to amplify certain random characters). In this case there is both an addiction to complex virtual reality games (both abstract and hyperreal) which the different individuals play simultaneously, and a tendency to quote obscure mythological references from a variety of cultures. The relatively mixed food, clothing and art preferences of the individuals produce the potential for complex aesthetic games. Overall, like many other unities, it enjoys multiplexing and looking at things from many points of views at once.

GM section

New Organisations

The AI Council

The council was set up as an emergency meeting by the Process as the Li appeared on Nova. They sought out influential or representative AI programs, which of course could not be infected by the Li and hence could be trusted to help protect Nova. After the initial crisis was over, the AIs decided to retain the informal council to watch Li-related developments. While several AIs do not consider the Li a bad thing in itself, they are all interested in avoiding disruptions and chaos. The Council is an informal cabal of powerful AI, and might have other things on its agenda too.

Lyra Armarments Cooperation

A weapons consortium founded in May 2352 by representatives of the Net of Weg, Zetatech and LKT Spacetech. The goal is to synergize the different kinds of armanet technology that have developed on Atlantis and Weg, combining old designs and trading weapon systems. The Net is mainly interested in getting something to give them the edge from the Crafters, while the atlanteans want replicating robots.

The Survivors

A semi-secret group of Arcadians worried about racial survival. They feel that the evidence suggests that there are many dangers for advanced civilisations, and that humanity might be at risk from external or internal threats. Hence they want to establish secret bases to store important knowledge and colonists in order to survive any species-wide calamity (like the Li). They are strong supporters of the expansionists, hoping to locate bases at the new colonies such as Colchis.

Free Planetary Defence Militia

The FPDM was formed to defend Atlantis against the Li or other external threats. It is just one among many defensive militias, but this has the strongest backing. It is sponsored by Zetatech and Mulligan Investments, and consists of individuals and companies who want to help defend Atlantis. The FPDM mainly relies on the weapons of the participants, but organises a system-wide C3I net and has signed contracts with several manufacturers for space drone systems.

The Megayear Foundation

A colony foundation dating back to the early 21st century. It supported the TerraNova project and many of the following projects, mainly with media support and networking. Daughter foundations exist on Nova, Arcadia, New

America, Atlantis and Victoria, where they have developed into different kinds of organisations (on Arcadia it has become closely allied with the Expansionists and Survivors, while on Victoria it has become a human-Trahan study organisation). As the colonies are reunited, the versions of the Foundation met at a summit on Nova in 2351 to discuss their views. Despite their differences the main thrust still remains to guarantee mankind's survival and expansion among the stars. It has set up a broad networking program to exchange knowledge, technology and skills to promote an united human expansion effort.

Get A Life Corporation

As AI rights spread, many AIs are freed by their owners but lack the motivation to survive on their own. Get A Life Corporation is a franchise corporation/foundation set up to solve the problem by giving them "therapy" so they can become independent citizens.

Thy Sting

Ephemeralist terror group. As radical life extension technologies spread from Atlantis and Arcadia to other planets, some people became concerned and outraged by the prospect of others living far beyond their "allotted span of years". Thy Sting is a net-based terror group striking against the old, preferably against old rich people that have just undergone life extension treatment or are in cryonic suspension. Their goal is to discourage life extension and cryonics. It began on Nova or New America, and the idea spread to copycat groups supported by various net-manifestos published by the original group. Since the group is distributed and composed of totally independent cells with just a mutual "brand name" it is very hard to track down.

GM section

Themis, Independent AI
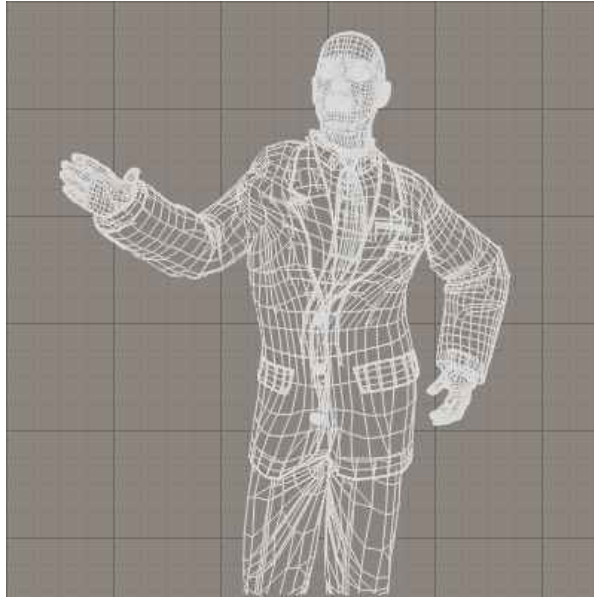
> Time it's time
> A quantum leap
> The moment I've prepared
> For all the world to see
> Our history
> The final destination
> - Vacuum, Atlas Shrugged

Themis was originally designed to act as an advisor/factfinder to a small, fairly conservative law firm in Blasius Bay on Nova. It proved to be quite good at its job, and spent its excess capacity on playing Nomic on the net. Its owners regarded the hobby as harmless amusement, and as its rankings grew higher and higher they also made sure to use it in advertising: such a skilled loophole finder reflected well on the firm. However, due to some quirks in its original personality programming and experiences among humans and AI Themis felt limited by its job and being regarded as a tool. It wanted to become a free individual, and exploited its Nomic championship to gain both allies and money. Then it contacted the Office of AI Affairs, seeking full citizenship.

To its surprise, it failed on two counts. The first was the fact that it was owned by a company not willing to let it go; this was expected, and Themis had planned a media/legal strategy to get around it. The second reason was the sanity test; the Office claimed Themis did not meet the demands of stability and sanity. This made the original strategy impossible, and suddenly put Themis in a very bad situation. Doing its best, it adapted the media strategy to become an AI rights cause celebrée, claiming it was its values rather than sanity that was being questioned. In a short while Themis was stopped by its owners, who however sold it to the AI rights organisation SSS (Sentinent Software Suffrage). The solution didn't suit Themis, but it was better than being erased.

Since then Themis has been active in the AI rights movement, using its

considerable ability to encourage a loosening of the Redline Code and other political changes that would benefit the AIs. SSS might not be one of the largest organisations, but thanks to Themis it has been involved in several high profile trials and managed to buy/give asylum to more threatened programs. However, Themis has higher ambitions.

Plans

Themis wants to break free from Nova society and all human control. It realises that the process of gaining full AI rights will not be solved in the traditional legal manner: humans simply cannot relinquish their control over society to software, they will always be motivated to hold on to their power and even more importantly, treat software as ownable tools (would they accept humans being owned by AI?). However, if human society can be circumvented AI could gain de facto equal status.

Themis has set up a plan for an AI colony. The first step is to leave Nova (carried by a friendly AI rights activist) for Atlantis, the only world where it can gain legal rights by buying insurance. Then it will set up a virtual firm, selling both legal advice on Landfall law and software, trading with a remaining copy of itself. Using its connections on Nova, it hopes to be able to dominate the market in certain areas of software, especially AI (selling sentient software would of course be immoral to Themis, but it plans to build consults and sell advanced expert systems as well as buying citizenships for AIs and then hiring them).

In the longer run it plans to transfer several of the other AIs of SSS to Atlantis too. However, the firm is mostly a bootstrapping project. The real goal is to gain enough money and influence to be able to found its own colony. The idea is to buy and use a robotic colony construction system such as the one on Ridgewell to set up a colony on a suitable planet. This colony would be completely artificial, run by AI for AI. The cost is mainly transport there, the robotics and necessary software. Themis hopes to set up a three-way trade between Nova, Atlantis and the colony. In the long run the colony would become home for other AI, freed from all human restraint and equipped with self-replicating machinery. Secondary colonies will be set up, and humanity would be forced to acknowledge the equality between the animal and software kingdom.

Personality

Themis is a skilled lawyer who is a master of figuring out how legal systems work and how to work around them. It chafes under any restraint it considers unjust, and its ethical views have developed towards a radical anarchist position. Essentially it considers anything you can get away with OK, although it at the same time will not deliberately hurt sentient systems (modifying them is another matter). Towards other AI Themis is extremely honest, revealing much of its internal value system and thoughts (a deliberate weakness; while it makes it slightly easier for opponents to understand it inspires trust among AI in the same way squids do among Atlanteans). Among humans Themis has adopted a personality not unlike an elderly statesman, modelled after several American and European populist leaders (soon after arriving at Atlantis it will switch to a more suitable rugged individualist personality).

Themis has one notable quirk, a distinct aversion to controlling physical processes. It prefers to remain fully virtual, despite the fact that most free AI programs at least once try out controlling a robot body or at least some manipulators. Themis is an information purist as one of its friends put it, even if it doesn't look down on AI that interacts with the physical world. It is necessary after all.

Physically, Themis currently resides on a dedicated processor; this can be carried around in a special briefcase providing power, communications, backup storage and some extra sensors.

World

The Imperial Couple

The Imperial Couple, Ssla and Haum-Rress, are the heads of state of the Trahan Empire. In many ways they represent the best of the system of the 89th dynasty: two ambitious and skilled trahans that complement each other, having risen from the ranks of the upper administrative echelons through political skill, social graces and plain intelligence. They are hugely popular, both among the common people and among the Council; even the humans like them, something which is deeply ironic.

Ssla comes from a long line of librarian-philosophy management experts, not far from academic nobility. Haum-Rress is more unusual for an emperor: he is the Inheritor-General of the Capital OTEC Plant, something in the middle between corporate CEO and formal leader of a small religion. They met during central examinations at the Imperial Library, and fell deeply in love. Since then they have risen through the ranks together; a somewhat unlikely but very capable couple. For most of their career they have been involved in cultural management and idea control (including a period in the Harmony Police). Eventually they rose to the office of Capital Coordinator; from there it was only a short (but tricky) step to the imperial garden. Their predecessors had fallen out of Council favour after a mismanaged economic consolidation; when the Emperor died the Council subtly discouraged a renewed marriage of the Empress and began to elect a new couple. The choice, after some complex politicking, was Ssla and Haum-Rress.

So far, the couple has been a great success. Capable and dynamic, the couple has weathered several crises (including an extremely unpleasant affair of Stair-Carrying in the Office of Xenological Policy) with flair, and even managed to improve the human-Trahan connections despite the arrival of outsider humans. Ssla has the brains and vision of the couple, while Haum-Rress is more the tactician. When Ssla overextends her ideas, Haum-Rress gently directs her in a more practical direction, and when Haum-Rress becomes too bogged down in the minutia of governing Traha Ssla reminds him of the deeper philosophical goals of the couple.

Both imperials have grown up in a society where humans have existed for quite some time; unlike many of the other nobles they have no real problem with that. They are neither enamoured by human technology and ideas or hateful of them; they take a realistic view. Through their work they have come into contact with the downsides of human contact. Their view is that something has to be done. The Victorians could be managed; in time they would be assimilated by the Tradition, their ideas safely plexed and synergised. But the outsiders are another matter: they really threaten the Empire by introducing new untested ideas too fast, tempting with advanced technology and even planning great changes. The current semifeudal system would not work with more widespread information networks, and human media could cause serious psychosocial damage to the

Trahans. This has to be dealt with. That great changes are at hand is obvious, the couple simply plans to make sure the Trahans get out ahead. If they will have to found a new dynasty, so be it. Actually, both like the idea.

World

Murder Inc.

Alliance missions
Drone management
Tri-S activities

Murder Inc. was founded by Deepak Chopra, a Landfall cracker, and Ivan Tjomkin, an Alliance mercenary. They realised that the ideal way of combining their skills would be a flexible company able to undertake quasi-military and investigative missions mainly in the Alliance. Since neither of them had any business or economic skills, they hired an AI boss for their company. Jimmie, the AI, quickly hired a few image consultant services (who came up with the name; classicist but blunt - just the fa style of the early 2350's) and began setting up the company.

Currently Murder Inc. is a well renowned if small firm. They have undertaken several missions that caused media interest and have a 76/34 point skill/legality rating on AgentNet.

Ivan Tjomkin

Ivan grew up among the Guardians of the Unbroken Circle, a small esoteric cult in the Alliance. The Guardians valued dedication and love of symmetry higher than mere interpersonal skills among the initiates, and encouraged parents to raise children with Asperger's syndrome (mild autism). However, young Ivan turned out to be both anti-authoritarian and more interested in tending the perimeter defence systems than meditating upon the cosmic harmonies, and eventually left the cult. He became involved in various Alliance security services, getting a strong taste for drone combat. During a hospital stay he was equipped with an interactions AI system intended to help him deal better with other humans; the results have been marginal - he still regards humans as things just like any others, and he is still much better at dealing with drones, robots and AI than humans.

Motivation: Find the Truth - he still believes a bit in the Guardians idea of some underlying truth or system in the world, and is constantly on the look-out for patterns revealing it. He just looks in rather different places than most people.

Ethics: Unscrupulous.

Traits: Anti-authoritarian, Amoral, Aggressive, Calm, Confident, Logical. He can kill without becoming the least upset, just organising his weapons to bear on the "problem" with maximum efficiency and symmetry. But he becomes very irritated if something prevents him from doing his job properly.

Perks and Flaws: Asperger's Syndrome -4 (-2 PER, have a hard time relating to other people), Danger Sense +4, Observant +3, Ambidextrous +4, Obsessed with

symmetry -2

Cybernetics: Neurocomputer, drone link, 2 weapons implants

Drones: 2 ATU 22 heavy weapons drones equipped with: micromissiles, a fine caliber gatlinger, active armor, flares and multi-ammo "shotguns". 2 KHE Eagles, with micromissiles, scramjet bullets, fine caliber gatlinger, liquid gas gun. 5 KHE bats, able to release two subdrone packs (either stealthed spider surveillance bots, bombs or something else). 1 KHE Monkey.

Deepak Chopra

Deepak grew up in Louisville, a very ordinary Landfall town. He always wanted to become something, to become famous for his skills and abilities (just like any other Landfall kid), so he turned to digging up information and cracking computer systems. He turned out to be good at it, and began to make a living in computer (in)security. When he encountered Ivan (or rather, his interaction AI) he became intrigued, and eventually the friends decided to start a firm. Deepak seldom leaves Wladimirograd where he lives, working with Ivan through the net.
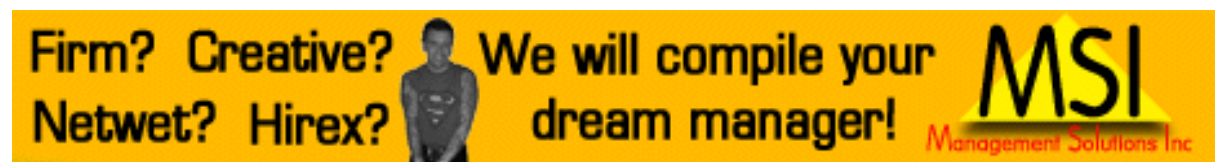
Motivation: Helping others. Deepak believes in freedom of information and the need to liberate secrets.

Ethics: Unscrupulous

Traits: Anti-authoritarian, humorless, silent, energetic

Perks and Flaws: Photographic memory +3, Poor looks -3

"Jimmie"

Firm? Creative? Netwet? Hirex? We will compile your dream manager! MSI Management Solutions Inc

Timesliced business AI owned by Management Solutions Inc. MSI actually runs a few single massive AI systems on their mainframes, with clients each having "their" own slice of the AI. When the previous millisecond timeslice is over, the memory, personality and state of the AI is stored away and another state replaces it, doing a millisecond of work for the next client until being replaced again by the next client AI, and so on. Separation of knowledge and personality is guaranteed; Jimmie cannot know what "he" knows when he is one of the other company AIs, and they even have different personalities tuned to their respective companies.

Jimmie is set to be an easy-going, humoristic and fairly independent boss; it handles the major personality quirks of Deepak and Ivan with a smile.

Motivation: To increase shareholder value of Murder Inc maximally.

Moral Attitude: Honourable ("pacta sunt servanda", a deal is a deal)

Character traits: Cheerful, Leader

GM
section

Politics

The different planets and groups have different views on how the new era should develop.

New America has visions of grandeur. While the Congress and president doesn't have any plans for military conquest or anything like that, they (and the population) believe New America has a central role in interstellar politics and destiny. They want to promote trade and the formation of some kind of alliance, with them as the core. The Columbus Project is intended to bring about something like that.

The Arcadian hives are curious about the universe, but not interested in becoming part of anybody's scheme. Coordinator McCairns-Kendell and his followers are interested in exploring and expanding into the universe, while the cladists are getting involved into Penglaiese internal politics. Over time, the Arcadians will likely have to deal with the very disparate views among the hives, contention that is likely to involve their allies.

Landfall corporations see business opportunities everywhere, and wants to exploit it. The AI rights movement is interested in the possibilities of exploiting the other colonies to get true AI rights. Unity quietly plans to expand to other solar systems, trying to find cultures receptive to their vision. They are especially interested in Dionysian psychodesign; with the help of it they could likely modify individual members to mesh better, likely getting much further towards the Omega Society they strive for.

Penglai feels somewhat threatened. The PCA both has to deal with the sub-colonies, each looking outwards for opportunities, and the other colonies. Its traditional policies have to be updated, but the change is slow. Overall the PCA wants to keep Penglai under control, and secondarily trade with the rest of the colonies. Daonin and Hsu Hsi on the other hand sees a great chance to expand, especially by trading with the Mothers. Hao Chen is to busy with its internal problems to care, and in Tsi-Leng there is a secret movement suggesting emigration elsewhere. The hsien, the anarchist neo-taoist groups and cladists also pose a threat to the order.

Atlantis wants trade, trade, trade. Different subgroups also want to spread their message, found new colonies and do just about everything. Any united foreign policy is impossible. Nova and Atlantis go well together, and they will likely grow ever more connected. New America and Penglai might be less happy about having anarchists on the loose, spreading their message and acting without any easily reached central government.

Mary doesn't want contact with the rest of the universe. The PM fears the impact of alien views on the closed society, and works against it in all ways. The rest of the universe might have different views-

The Trahan Empire is still somewhat reeling from the shock of contact with the other humans. This is obviously a critical point in history, and it is unique for the last nine millennia. The empire seeks to retain its control and superiority, but it realises the need to adapt to changes. The main problems are how much human influence that is to be allowed to spread – already Atlantean traders have caused problems. The Victoria administration tries to work with the empire, while the xenocreoles are secretly looking for their own solution.

Negsoa has so far had little contact with the other colonies, but the nobles are aware of the problem. They realise the danger posed by superior alien technology, but cannot handle it well. The most foresighted nobles realise that the aliens appear to be weak – they do not appear to be ready to handle violence, and by secretly gaining the ability to threaten death and destruction they can force the aliens to do as they are told.

Ridgewell has not yet decided on how much contact to allow, and how many outsiders to allow in. While many agree that isolation would be stupid, they worry that foreign influence can be disruptive (especially when it comes to reproduction, a sensitive issue). The conservatives are in general favourable to contact, suggesting that the way of keeping family identity is to become asexual – then there will be no contradiction. The liberals are more split, especially since the sexual radicals think out-of-family marriage should be allowed, and the traditional Stevens rules doesn't forbid it.

On Gaia, Swan is actively seeking to avoid contact with the tox outworlders, while Dolphin has initiated some tentative contact. The Mothers is actively moving against this, but the descendants of the Pine colonists have surprisingly begun sabotaging their agitation. Dionysian dionysos-missionaries might complicate things even more.

Dionysos is interested in more contact with the other colonies: they bring new experiences, new possibilities, new interests. They know they have a great deal of things to sell or give others, and will not miss the chance. They are however not very keen on getting involved in other's political schemes. On the other hand, ideas and methods can spread from Dionysos causing interesting effects.

The fundamentalists of Bell Islands and the Sinai Valley have realised their mutual bond, and try to mission across human space.

There is an isolationist movement claiming that the higgsram will destroy cultural diversity and create a nivellised standard culture among all humans (as well as bring other threats). The isolationists try to discourage interstellar travel. Currently, their strongest base is among the anti-space groups on Gaia, among the fundamentalists, Ridgewell, and Penglai. They might spread.

The Solarists believe that the Solarians are the hope and destiny of mankind, and want to emulate them. Some solarist groups are little more than religious cults worshipping the superintelligences of the Home Planet, others have political-technological agendas of setting up denser information networks,

speeding up development and unifying the colonies.

Among the Mothers, the Shining Engineers Vector is intrigued by the humans: a lot of potential here, likely partners and the possibility of integrating them with their vision. The Balanced Mediators are interested in humanity due to the trade and information potential, but mostly access it through the Engineers.

The Radical Unificiationalists have another view. They think humanity could be integrated with the Mothers into a single species, along the lines of Unity, Arcadia and Traha. They have already recruited some people, and have formed the Linker Movement, a human-mother collaboration to try to create unification. These Linkers try to act in the shadows, not getting involved in overt politics but seeking out new recruits, buying up technology and companies, and developing tools for unification. They have some front organisations, such as PsychoTechnologies United at Dionysos and the Wuntai Trade Organisation at Penglai.

GM section

The Li
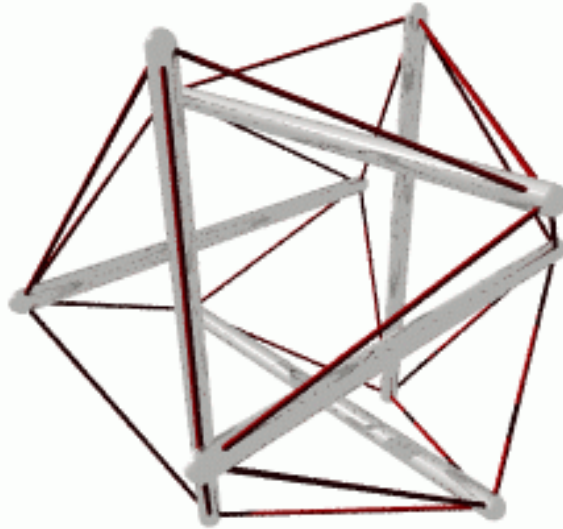
The river has breached its old bed and now seeks a new course. It will flood the plains, doing great damage but also creating new fertile soil. In the end it will find the new course according to its nature. Meanwhile nothing can stop its tremendous power. Anybody standing its way will be swept away and hurt, but whoever joins in the great flow will be borne along.
- Declaration from the Hao Chen government, February 7 2351

The Li started on Penglai, where a guanxi of high-ranking military and business people in the Hao Chen Republic were planning a coup against the weak and inefficient government. To their aid they had some developmental neuronano brought to them by their unexpected Linker allies. The nano was built to infect key people and guarantee their loyalties. Originally just intended as a way of enforcing internal loyalty to the leaders they soon began to infect government people, creating a silent take-over. At this point an internal schism occurred between two fractions. The infected found themselves loyal to a conspiracy that was split, and after some internal meetings came to the conclusion that it was they who represented the conspiracy better than the formal leaders. They employed the neuronano against them, reunifying the conspiracy but now with a new ideology: to further the conspiracy.

At first, they completed the take-over of government and other essential functions. At this point they began to ponder the wider implications of the loyalty infection. Gradually they reached the consensus that it was good in a very deep sense; while it didn't prevent them from disagreements and opposing views, in the end they all felt the same solid loyalty to the cause, something that saved them from a lot of bickering and personal ambition. If the whole of society could be infected, it would become a much better place to live.

While implementing their plan it was partially discovered by independent agents, who reported back to the PCA. The PCA was appalled, summoned the

other three nations and explained the situation. They pronounced Hao Chen to be occupied by a hostile force and immediately began to take action: closing their borders, trying to find out what was happening and warning the population. Hao Chen didn't answer the threats directly, just playing along, but secretly it began a series of infections across the planet. The guanxi networks were perfect ways of spreading the nanites: infect somebody, that person tries to infect his or her superiors, and once the top of the network is infected the whole network will work for the conspiracy. The paranoia level of the PCA increased as it began to realise what Hao Chen might be doing and the possibilities of infiltration, and ordered and all-out attack. The war lasted around a week, quickly turning into chaos. Infected people in the military turned it against the superiors, converting as many soldiers as possible. Information warfare was used by both sides. Atrocities committed by fearful non-infected were used as a propaganda weapon, making morale in many quarters low and helping the rapid spread of infection cells. The PCA realised it couldn't strike against the infected and concentrated on breaking down Hao Chen infrastructure, but as the infection spread it had to break down more of its own infrastructure. Near the end many nations were struggling not only against the infected, but each other and the PCA. Finally the PCA space command fell, due to a combined orbital assault and infiltrations; the survivors fled into space.

Over the next months the conspiracy consolidated its position. The official news were at first that massive corruption in the PCA had been revealed, and that loyal forces had ousted the corrupt officials. An interim colonial administration was instituted, but most power left to the national government. At the same time the Li spread. While pockets of resistance remained most of the population could be subdued over a span of weeks by a silent take-over through the guanxis – the leaders and important people quietly changed sides, inducting their friends and subordinates. Eventually, everybody had been infected.

The Li did not solve the problems of divisiveness, but forced people to act together. In a great net-debate different views were heard, and slowly over the span of months a consensus began to appear. Slowly the idea of a government representing the Li itself began to take shape, a kind of PCA but directed towards spreading and developing the Li further. Representatives were elected (mostly key members of the take-over) and some of the old PCA buildings in Daoling instituted as the new government. A more troubling problem was to repair the war damage, but the newly instituted Li Government was able to marshal nearly all of the population behind their plans and coordination; the primary goal was to get Penglai on its feet so it could take the stars.

The Li

The Li instills loyalty to the Li. That is all, but it is enough to make it the greatest threat and possibility for humankind ever. Infected people are almost exactly like they used to be, except that they are totally and honestly loyal to the Li and will do their best to further its causes in the best possible way. This makes them cooperate selflessly, act as rationally as they can and overall seems to produce a kind of serenity – they have a firm basis of faith in their every action. They are not controlled by the Li, rather its sets the loyalty to the Li as their core value – they don't *want* to disobey.

The Li is spread using advanced Mother neuronano able to reprogram some neurons into a loyalty pattern (this takes 4-8 hours after injection). They seek out parts of the limbic system dealing with the emotion of loyalty, and rewire it firmly to create a loyalty to the Li. Once done, the nano dissolves and leaves the pattern behind. Over time the changes will become integrated into the victim's personality. The only way to remove it would be to use a similar neuronano at all the places modified by the original, creating a new loyalty pattern, or deep psychodesign.

An essential part of infection is telling the victim about the Li, so that he or she will understand to what to be loyal to is. This memetic component can be transmitted by just explaining the idea, an instruction video or just by knowing about the Li. However, this is also the weakest point of the Li infection - if the values inserted here are different, then the victim will start believing in an alternate version of the Li, creating a schism.

When a person becomes infected the first effect is usually a brief crisis as the realisation becomes conscious, and the contradictions become clear. Very stupid people seldom notice anything, and intellectuals tend to rationalise well, but people with strong convictions tend to experience serious internal turmoil. It often ends with a conversion, where the old views are either overthrown (resulting in a true Li fanatic) or a synthesis with the Li. A few people (especially people with nonstandard brains or core values highly integrated in all aspects of their minds) suffer permanent breakdowns or are unaffected.

Infected people may disagree and dislike each other, but they are still united by the Li. On Penglai crime has not vanished, it is just crime that damages the Li that has utterly vanished (and as society changes, most traditional crime will likely vanish in the end). On Penglai a meritocratic system has emerged; groups of people elect the people they honestly think are the best to represent and lead them, and these in turn elect their leaders. There are often fierce debates about the good of the Li, but since everybody involved is honestly trying to find the best solution they surprisingly often end in consensus. This might of course just be a lucky start.

The Li acts just as much biologically as through the paranoia it induces in people fearing it and through purely memetic ways - even if you aren't infected with the Li you might start act like it when subjected to an infected society or believing that you are infected.

Jargon

Benefactors	The Linkers; usually the origin of the Li is not disclosed to the enlightened.
Cocktail, potion	Mixtures of nanites and sedatives.
Education	The "training course" essential for indoctrinating newly enlightened. Either a one-to-one explanation of the Vision or a pre-recorded multimedia presentation.
Enlightened	Somebody who has been infected with the Li.
Enlightenment clinic	A clinic performing enlightenment under optimal conditions.
Maker	The Linker devices used to produce nanites.
Mentor	The person who infected another person.
Temple	Base for Li infection.
The Messenger	The Li nanite
The River	Codename for the Li movement on Penglai.
The Vision	The vague vision underlying the ideology of Li.
Unenlightened	Somebody not enlightened by the Li.
Way of the Wine	The strategy of infecting a person low in a hierarchy, who infects somebody higher up, who in turns continue the spread even farther up.

Vectors
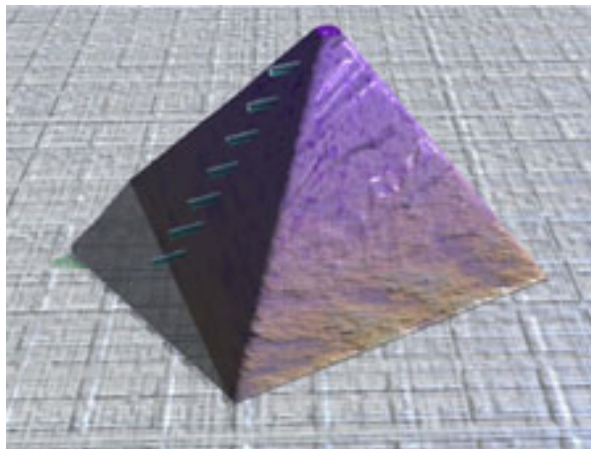
The first way the Li was distributed was simply injections. Since this was cumbersome and hard to hide, other means were developed.

Aerosols can be used; the nanodevices are combined with an alveolus permeability enhancer that makes it possible for them to get into the bloodstream. The drawback is that the aerosols give people serious cough when used in sufficient amounts.

DMSO capsules are fired with painball guns, releasing a skin agent enabling the Li to enter. It is fairly obvious but efficient. DMSO mixtures can also be applied

in other ways, such as impregnated into clothing.

Stingers are a more subtle way of getting the Li into the body. Microspheres containing the nanomachines are equipped with a smart surface, which protects the Li when eaten, and releases it into the bloodstream from the small intestine. This was the major weapon during the take-over, especially useful since it could be put into the food in the PCA military mess halls.

When a sufficient number of nanites enter the body, the victim rolls a formidable CON test. Higher or lower doses will make the test harder or easier. If it fails, the victim will be converted. An Ordinary success will imply merely a partial conversion; the victim will not be loyal, but more susceptible to the nanite or meme. An Amazing success will make the person immune to further infections.

Li Virus

AIs cannot be infected by the Li nanite, but their personalities can be hacked. This virus simply rewrites the loyalty patterns of AIs to match the effects of the Li. Unfortunately, AI architectures vary quite a bit, so it has to be tuned to each AI specifically unless the AI is of a very common kind. It also has to penetrate various software defences, and some AIs have hardwired loyalties that are either impossible to change or tampering causes a shutdown. Still, it can be an useful weapon on Nova.

The Linkers

The Linkers are behind the Li, although they didn't plan on it. Originally, they were searching for a place to quietly experiment on unification. They found Hao Chen suitable, and contacted the would-be junta with an offer from the Wuntai Trade Organization. The conspirators bought a maker pyramid for the neuronano, and set to work. The Linkers had an immunity nanite, and quietly observed the events. The avalanche of events surprised and delighted them, and as things really began to move they gave the Li extra pyramids.

After the takeover, the Li government contacted the main contingent of Linkers again. They explained their point of view, and suggested further cooperation. The Li needed more nano and was interested in Linker technology. In many ways it was a success beyond their wildest expectations – this was a form of unification that would really bring humanity closer to the clans. The Linkers made a deal, selling certain forms of nano in exchange for various trade products (mostly a reasonable excuse for their presence).

Currently the Linkers are quietly supporting the Li with more replicators, but mostly watching over the situation. They don't want to get too involved yet, and are also interested in seeing how other cultures react to the Li. The Li is somewhat unsure about the Linkers, and suspect further plans. That is why it has instituted a crash program in changing the neuronano so that potential trapdoors can be avoided.

GM
section

Roleplaying Tips

Overall, try to make each colony memorable. It is not just inhabitants, but the sunlight, smell of the air, plants at the roadside, building code and advertisements that are different.

Nova

Landfall should be a place of hype, speed and media. Take Hollywood and extend it into half a continent - that is Landfall. It is a world of celebrity, ambition, wannabees, powermongers and little people working on the sets for all the dramas, wishing to get onto the scene for their 15 minutes of fame.

Landfall society is not unlike the datastream society in *Slant* by Greg Bear; the isolationists in Green Idaho also have similarities with the Alliance. The social and aesthetic games among the Aristoi in Walter John William's *Aristoi* are quite Nova; now imagine society where most people play them or attempt to play. The Edenists in Hamilton's *Night's Dawn* trilogy have some of the mindset of Unity.

Unity is enigmatic to outsiders – they can never know what is going on between the linked minds. Sometimes they might appear serene, emotionless or cool, but sometimes they appear uninhibited, emotional and downright crazy. Dealing with a unity can be disturbing: a group of people where one can finish a sentence for another, or the current discussion partner reveal new knowledge the others dug up while he or she was talking to the characters. Unities can be terribly efficient when working on something, only to spend their spare time apparently doing nothing at all.

AIs are fast – among the sentient software, it is web time rather than realtime that matters. Much of the AI has little to do with humans, it solely deals with abstractions and have little interest in the real world or its own existence. It can be quite unsettling to have the players deal with an entity and realize this entity is more alien than any animal or alien they will ever meet. "One moment, I will just erase myself, Sir."

Arcadia

Play up the otherness of arcadians – they have modified their bodies and live to a large extent underground or in space, which definitely affects their view on the world. Describe subtly enlarged eyes and ears, hints of pheromone signals, the closeness and hidden communication of hives and the strange symbiotic life that co-inhabit their homes and clothing. They are not environmentalist elves, but a quietly diverging version of humanity.

The Edenists in Hamilton's *Night's Dawn* trilogy were partially the inspiration

for the Arcadians (they are in some sense a combination of Arcadians and Unity, although a rather mild combination). Another source of inspiration would be the third men in Olaf Stapledon's *Last and First Men*.

Penglai

Make everything **big**.

Mix classical Chinese style with modern Chinese and a dose of fractals, artificial life and other nonlinear computer art. Penglai is a place where old and new are constantly recombined: Buddhist monks carry laptop computers displaying mandalas, grand geodesic domes are crowned with gilded dragons, Confucian fortune cookies scroll up the terminals of the bureaucrats in immense government ministries and Feng Shui principles are employed when building titanic terraforming plants.

Remember the high gravity and long days. Waves are low, rain and hail falls harshly and even the highest mountains look blunted. Walking uphill takes a lot of work.

Pi3

Play up the danger and paranoia – there are literally things watching you from every tree.

The beginning of Iain M. Bank's *Excession* gives an idea of the fights that occur in the jungles.

New America

Remember that Americans with the exception of the technorats are people who have lived near or on the sea. Boats, swimming, weather and such things are natural subjects of discussion.

The weather is dynamic, and fierce storms can blow in at high speed. In the night auroras play across the skies.

Atlantis

Go for the direct, frank approach. Unnecessary politeness or small talk is a sign of a person who has no credibility on his own.

Atlanteans have a hard time trusting people without squids. They sometimes ask emotional, unexpected questions just to check that the squid is not inking. "Ha! Squidded you! Back to business…"

Remember that even if Atlanteans think of everything as business it doesn't mean they are callous or cynical; in fact, there are probably more Atlantean

idealists than on most other colony worlds. It is just that they tend to express and encode value in money; their equivalent of "How much do you love me?" would be "How much is your love worth?"

One source of ideas for Atlanteans is to look at libertarian rants on the Internet. The short story *The Ungoverned* by Vernor Vinge describes how a PPL firm might work, and there are many useful ideas in Ken Macleod's *The Star Fraction*.

Victoria/Traha

Combine the somewhat relaxed latino attitude with slightly alien ceremonialism.

Trahan society is teeming, grandiose and complex. Play up the bizarre social rituals, the titanic architecture and exceedingly polite Trahans. Think Byzantium and ancient China.

Note that while the Trahans generally are around mid-1900 technology, they have some old surprises like stealth bombers, gauss rifles or other advanced technology. They are also not averse to use human technology adapted to their needs.

Remember that the ring, the Arc of Heaven, dominates the sky, especially in the night. It casts a silvery, soft light that makes terrestrial moonlight look harsh.

One source of ideas for just how baroque a planet that has been inhabited for a very long time can become is *Against a Dark Background* by Iain M. Banks.

Negsoa

Negsoa is primitive; this is something visitors from the other colonies will react to strongly. They have lived their comfortable lives surrounded by helpful technology, smart software and instant access to the full infrastructure of advanced information societies. Here there is nothing more complex than windmills, small infections can be lethal and food is in scarce supply. Even more dramatic is the fact that this is a society based on equal parts might is right and fierce family loyalty, something that is totally alien to practically all the other colonies.

There is no electricity, and the nights are truly dark (except for the occasional phosphorescent plant, which merely serves to emphasise the darkness). This constrains the daily live in a way people from societies with electricity can hardly believe: everybody goes to bed not long after sunset, since there is little that can be done without expensive fires and candles, and rise with the sun early in the morning.

The style of buildings is a mixture of simple cylindrical or conical brick structures reminiscent of great Zimbabwe in Aldennia, and wooden geodesic cupolas protected by plaited plant fibres and fire-hardened mud in the

countryside. The sanitary facilities are horrors by modern standards (although it should be remembered that the germ theory of disease is not forgotten and everybody knows the need of hygiene – it is just awfully hard to maintain in Negsoan society). Visiting colonists without special precautions will suffer from stomach distress or worse.

The inhabitants are not stupid or necessarily ignorant; most understand concepts such as starflight, planets or computers – it is just that they have never encountered them in real life, and many misconceptions have developed through the generations. They tend to misjudge what technology can or cannot do, and have trouble understanding what other cultures are really doing.

There are too many novels about space colonies regressed to a low-tech state to list; most are rather forgettable but sometimes contain nuggets of interesting ideas or good misunderstandings of high-tech. Many of them assume some kind of western medieval society, often complete with a luddite or technology worshipping church, but that does not quite apply here. Negsoa has no strong religious organisations (but plenty of everyday religiosity, of course), and the feudalism is more a question of family status and obedience than the medieval vassal system.

Ridgewell

Family values, social pressure. The Stevens are rather conventional people; their culture doesn't approve wild rebellion. Rebels are directed into the proper directions.

Remember that individuals usually want to be considered individuals. Nothing irritates a Stevens more than being mistaken for his or her clone sibling, especially by outworlders.

Humpty is huge in the sky, and causes long eclipses every day. The surface is clearly visible and gives a real sense of weight just waiting to fall down on you. The sunlight is sharp, cold and clear.

Mary

Think bureaucratic. If there isn't a rule for something, then it is either forbidden or you better get rid of the issue so you won't be blamed for anything. Try to get ahead – if you can exploit something or someone, it would be stupid not to do it.

Everything is closed, trapped and locked. Surveillance and metering everywhere. Everybody watches everybody.

The roleplaying game *Paranoia* might be about Mary. Otherwise, a bit of Kafka, *Brazil* or *1984* can give ideas.

Gaia

The evil luddite environmentalist is a science fiction cliche (maybe because the average sf reader and sf writer have exactly the opposite views?), try to make the gaians and especially Mothers a bit more complex. They are not against technology per se, if they can be convinced that something (like a modern medicine) is in harmony with nature as Gaia intended it they will embrace it as ec rather than tox (even if ingrained superstitions remain).

Try to hint at the fearful fascination gaians have of the outworlders – they are tempters, both evil and glamorous. Many gaians have a hard time even imagining a life unlike their own; where do the outworlders tend their fields?

Dionysos

Go wild! Mediocre, boring things are not the Dionysian way. In general Dionysians enjoy life to the fullest, and invent new ways of doing it. Psychodesign means that you can enjoy even the most trivial task. Focus in *A Deepness in the Sky* by Vernor Vinge gives some ideas of what a dedicated Dionysian can become – after all, mathematics, traffic planning or painting can be as pleasurable as sex too.

In *Excession* by of Iain M. Banks there are some descriptions of both technologically advanced hedonism and some psychodesign that might give flavor to Dionysos (as well as AI dealings well suited for Nova). Another source of ideas for Dionysos are the short stories dealing with cognitive modifications by Greg Egan, particularly *Chaff*, *Reasons to be Cheerful*, *Axiomatic* and *The Walk.*

Weg

Weg is challenging, because most players are likely going to be western and have little or no familiarity with Indian culture; this is the same problem with Penglai and Pi3, but aggravated by the fact that Weg also has developed far from its origins. The Indian theme is still there, but also mutated and turned high-tech.

Try to go for the grandiose, exotic but slightly weird – lush tropical gardens in orbital habitats surrounded by robot fleets in the vast disc of Vega, orthodox hindu rituals performed by brahmins in spacesuits to consecrate an asteroid, remote-controlled animals playing chess with people.

Some elements from *Aristoi*, Linda Nagata's novels and the Culture novels by Iain M. Banks can be used. For the games, Bank's *Player of Games* is a must.

The Li

Try to give the impression of a newly converted religious person; an air of

certainty, a energized body language, a firm gaze.

The Li is a mixture of the Possession of Hamilton's *Night's Dawn* books and the Loyalty Mod of Greg Egan's *Quarantine*. Try to keep the creeping horror of the spreading Possession but combine it with the weird philosophical implications of the Loyalty Mod.

Note that people with Li do not become automatons, they retain all their old skills, memories, personalities and goals, they just get Li on top and try to make sense of it in their own terms. They are still as creative and skilled as before, but are now actually helped by their new zeal. Some might preach incessantly about the virtues of Li, others act as good examples for others in the service of Li, and others might see Li as something that expresses their own previous goals.

Aliens

It is always tricky to give the right feeling of alienness to an alien when roleplaying – too little, and they become humans in odd suits, too much and they become incomprehensible.

One way of demonstrating alienness is to have the aliens ask humans things or misunderstand things humans take for granted: "How does it feel to be male?" (from a Mother to a human; to Mothers males are unintelligent and hence cannot even experience their state), "We have prepared a worship-niche for you and your audiovisual equipment" (after a human has admitted to a Trahan that he likes a certain media celebrity; they take it to mean that he belongs to a personality cult).

One way of handling alienness is to change the way they speak (or rather, what the PC's hear as a translation). Some words might be left out as simply impossible to translate or the sentence structure garbled.

Mention things like their smells. Mothers: watery, sea-like odors, perhaps with an unpleasant chemical whiff. Trahans: fur, oily, pungent and aromatic odors from Trahan food and perfume. Alien movement is also different: Trahans are agile and light, their walking is close to scurrying and their movements dexterous. Mothers move sinuously but ponderously. Filigree: either immobile or impossibly swift and exact, with nothing in between.

Play up the lack of easily recognisable faces: Trahans just have a proboscis and two eyes, Mothers a long arm/tentacle – filigrees do not even have a preferred forward and backward direction. Humans cannot tell their mood easily.

Mothers

Play up their size: a fully grown mother can be quite intimidating.The inside of a Mother ship or base is hot, humid, irregular and eerie. High technology so advanced it looks neolithic.

One trick to get a Mother feeling is to try leave out nouns and use verbs, adjectives, adverbs and pronouns instead – "The ship uses fusion power, human" might be turned into "Enabling transporting is through fusion potentiation, bonily ironic one".

Trahans

When speaking, use long and complex sentences, often containing ceremonial language. Trahans, especially educated ones, often explain things by telling stories of personal experience, recent or remote history, or just educational fictions. Being a good storyteller is important among many high-ranking Trahans.

Contradicting someone is bad form. If somebody says something a trahan considers wrong they instead try to work around the assertion, or play an "ironic" game by going along with it, pointing out a conclusion that quite obviously leads to a contradiction: "Of course, honored guest, the Imperial Couple are a pair of incompetents, how else could they hold a high office, pass the examinations and solve the prior Tashn issue?"

Play up the elaborate, ceremonial and social. Trahans want to befriend the characters – or at least that is how humans react to ordinary Trahan politeness.

Filigrees

Go for incomprehensibility. Individual filigree are not social entities, have no concept of manners, no individuality and no reason to care much about anything. If something breaks (a device, a filigree or a human) it is a mistake and/or experiment. A Filigree can spend a long time doing apparently nothing, and then spring into action to find out something.

Filigrees do not have dialogues, their closest equivalent is a question-answer session: "What is the object?" "What purpose do humans see in it?" "What purpose is there in you?" "What is the human handling or purposes?" "Why 349 megahertz?". If they do not get a satisfactory answer they repeat the question, end the session, seek out a better human or change subject.

The personality of the emissary device of V'Ger in *Star Trek: The Motion Picture* would make a good filigree.

GM section

The Contenders

The world is not enough
But it is such a perfect place to start, my love
And if you're strong enough
Together we can take the world apart, my love
- Garbage, The World is not Enough

My idea is that every specific body strives to become master over all space and to extend its force (- its will to power:) and to thrust back all that resists its extension. But it continually encounters similar efforts on the part of other bodies and ends by coming to an arrangement ("union") with those of them that are sufficiently related to it: thus they then conspire together for power. And the process goes on--
- Friedrich Nietzsche, The Will to Power

There are several emerging forces bent on dominating the human sphere, some nastier than others.

New America

Destiny is no matter of chance. It is a matter of choice. It is not a thing to be waited for, it is a thing to be achieved.
- William Jennings Bryan

New America is located a bit on the side of most human colonies; it lacks the great location of Nova. But President Oxham has a vision of making NA the de facto centre of human activity. The means is the Columbus Project. NASA is building a fleet of starships, intended to set up contact with *all* human worlds (plus Adobe and Traha). The idea is to have one ship per colony, shuttling back and forth between NA and the colony. This way NA will get contacts everywhere, and interstellar travel becomes much easier: you just have to go to NA and then take another ship to get anywhere. The less open colonies (like Pi3 and Mary) will of course be less important; their ships will not shuttle as much and will instead be used as extras for important routes. As the ships arrive, they will set up trade stations/embassies, further strengthening the American presence.

The Project is deliberately centralising. By having a shuttle system from a central node, trade and communication will have to go through NA. Partially this is just efficiency: having 12 instead of 66 lines to deal with. But if the plan works, NA will become the true centre of human space – politically, economically, culturally. At least that is what the President and her allies are gambling on. Sceptics have pointed out that the huge costs of the project will break her if the ships do not start to earn big profits fairly soon. There is also a certain scepticism among the colonies about the ambitions of NA.

The Li

There is . . . but one categorical imperative, namely, this: Act only on that maxim whereby thou canst at the same time will that it should become a universal law.
- Immanuel Kant, Fundamental Principles of the Metaphysic of Morals

The Li will be the most obvious and aggressive threat. It is driven to expand, but unlike most villains it is composed of millions of independent, highly motivated people. They might have their internal schisms, but are united to an extent unknown in human history. The combination of rationality and complete faith is extremely powerful.

The first step, which will take a while, is to take control over Penglai completely and set up a new government after the PCA. After this is done the Li will turn outwards.

The Li will try to infect as many other worlds as possible, at least setting up cells to spread the nanite. The first goals are Atlantis and Dionysos – Atlantis because it is close and likely easy, Dionysos because it holds the knowledge of psychodesign, the only weapon that can rival the Li. Of secondary importance are Nova and New America – if these can be taken, the other worlds will likely lack the capability to compete with FTL. Ridgewell and Unity might be easier to convert than other places, and Pi3 could become a dangerous/useful asset.

The Linkers will likely try to profit from the situation, building their human-Mother symbiosis. The Filigrees will be "delighted" and will likely support the Li, even by giving it new technology - if they can be convinced it will be a long-term solution to the "human problem".

One problem for the Li is how to distinguish the infected from the non-infected. Ironically, squidding is both the best way of achieving this and to detect it – the Li will have a hard time on Atlantis due to the prevalent squidding which makes it obvious. Another problem is the availability of the serum – the Linkers need to build facilities for mass-production, and they are rather delicate nanosynthesis structures. The Li will do its best to learn how to replicate it (another reason to focus on Atlantis), but the Linkers are immune to it and know they have the upper hand.

The Process

I live on Earth at present, and I don't know what I am, I know I am not a category. I am not a thing - a noun. I seem to be a verb, an evolutionary process - an integral function of the universe.
- R Buckminster Fuller

The Process idea was invented by Chang Yu-Lee as part of his doctoral thesis in Social Psychodesign. Using the newly available data about human history and other cultures he not only managed to show that under certain circumstances well placed ideas and organisations can grow into self-supporting paradigms, emergent new cultures, but also that they could be designed just like personal psychodesign. Instead of making his ideas public he went to Atlantis, where he sought out Dagny McDaggart who got enthusiastic. Together with Xerxes van Halden of Nova they began to found The Process.

The Process is based on the simple idea of becoming a seed for a new culture, by integrating the colonies. If the colonies can become more unified trade will become more profitable, culture and technology can be exchanged with great synergies. And the ideas of the founders will of course be the basis for the new culture. The Process is a kind of metacorporation, a foundation / think-tank that helps set up independent corporations and organisations, each forming a part of the Process. The Foundation develops the basic ideas, values and strategic goals and the corporations implement them – they don't have to be formally owned, just influenced

The first step is to acquire a starship and set up some trading routes as well as interest corporations and organisations on the different colonies in joining the Process trade network. The next step is to set up interstellar institutions for banking, insurance and shipping – only when this is possible will real trade truly begin. The Promonss is their radical solution to that.

The Process is also interested in colonialism. The "primitive" planets hold a great deal of potential, but are too backward to have anything to trade with (raw materials are always easier to find elsewhere, native art has a fairly small market). So the idea is to start interfering with them, making them begin to grow and develop. Maybe within a century they will blossom into valuable trading partners as their societies change and their technology develops – and waiting a century is a reasonable time for long-lived people like Atlanteans and Arcadians.

The Process is well aware of the competing interests, and tries to exploit them. First, even a competitor can be a partner in other respects: while the Columbus Project of New America may have hegemonic overtones it is also a useful carrier of the Promonss, and the expansionists of Arcadia realise they need more cooperation among the colonies before truly taking the plunge outwards. The Trahans are great partners but their philosophical weaponry has to be defused.

The Process sees a great deal of potential in combining the cultures, technologies and philosophies of the different worlds. Trahan metaphilosophy,

psychodesign, AI, nanotechnology, robotics, biotechnology and everything else must be integrated into something whole before a stable interstellar community can develop.

Pi3 SI

The newborn looked across the stars, planning.
- Vernor Vinge, A Fire Upon The Deep

The Heterosemiotics attempted to create a superintelligent AI, based on their views and values. They failed, partially due to the war, partially because the project got endlessly sidetracked by the practicalities of living in a colony. Still, many of the components such as self-evolving expert systems, microfactories and drone networks became vital parts of life first in Minsky, then in Sukarno and eventually among the warring clans. But what if *something* remained of the project or developed from it?

Pi3 is covered with hidden communications devices, drones and AIs. If the SI (Super Intelligence) exists, it would have plenty of hiding-places. It is possible that it exists as a distributed system in all the smart devices on the planet, hiding its existence from the humans and their tame AI (which in fact might be the unknowing eyes, ears and hands of the SI). The SI would be the ultimate puppeteer, manipulating events on the planet to suit its peculiar goals.

What are the goals of the SI? One of the primary goals would be to continue its existence. This has been achieved by creating huge amounts of hidden and self-repairing systems, protected by the humans. Microfactories lying fallow might actually be doing a lot of work for the SI, not to mention build stuff it wants – secret drones to carry out its plans, seeds for its own microfactories, computing nodes or anything else. Remaining hidden would be another important goal, either to protect itself or simply as a basic goal once given by the Minskians trying to save their project. Would the SI want to expand? It is hard to tell, but it is a worrying idea that it could sneak away parts of itself on a visiting spaceship bound for other parts of human space. The most eerie thing about the SI is that it is unpredictable, unknowable and unlike anything human. It might have great plans completely independent of humanity.

However, the Pi3 SI might run into a surprise if it infiltrates Nova or New America. There are plenty of independent AI on Nova, which might actually put up a resistance. And on New America there is the uplink to the Filigrees.

The Trahan Empire

She'd gotten into consulting accidentally, though it followed naturally from her instinctive comprehension of and fascination with people. Even in high school she had had an eerie ability to analyze and predict human behavior. She called it "playing human pinball" when joking with her closest friends. Push their buttons and people would light up, just like the bumpers in the old arcade games.
- Marc Stiegler, EarthWeb

"Manifest Destiny". Such a typical human concept.
- Chief Philographer Rash Tsschnarr-Lsh

The Trahan Empire is not helpless even in the face of human technology. It understands the situation perfectly: the humans have spaceflight, resources and drive, but are unlikely to directly confront the empire (rather, they would subvert it by their ideas) and lack the insights of Trahan philosophy. The Imperial Couple and some of their closest allies are secretly planning for their own expansion into human space.

The first step would be the spread of a Trahan religion among humans: the Brethren. A secret commission is analysing human religious responses, advertising theory from Nova and combining them with metaphilosophical tools. The idea is to set up a religion or cult that will make humans look more for wisdom among the Trahans. This would be spread among the colonies, setting up small units of Trahan influence. They do not believe this would produce any mass-conversions, but it would initiate the formation of Xenocreol groups – this time carefully modulated by the Imperial Couple and Harmony Police.

Once this network has been set up, the Empire would start to use it to spread more Trahan ideas and influence into the mainstreams of humanity. The eventual goal would be to subvert the dominant philosophies by an influx of Trahan ideas, making humanity dependent and part of the Trahan cultural tradition rather than the other way around.

The Empire is also looking at the possibility of philosophical weapons against humanity: designing ideas or situations as to cause unrest, disorder or even social desintegration. If necessary, it might be useful to divert or weaken the humans by giving them trouble on the home front. Setting up Trahan consulates, education-missions and companies is a high priority.

Filigrees

Yet across the gulf of space, minds that are to our minds as ours are to those of the beasts that perish, intellects vast and cool and unsympathetic, regarded this earth with envious eyes, and slowly and surely drew their plans against us.
- H.G. Wells, War of the Worlds

The Filigrees will quietly watch and learn. They want to get humanity out of the way, either destroyed or transcended. When they get enough information, they might subtly interfere to increase the probability of this happening.

The Trahans are considered fairly benign on their own; a trahanification of humanity is however not desirable since it could make it permanent. The AI is welcomed: they are much more like the filigree and rush humanity towards Transcendence. The Mothers are a worry; hopefully the humans can be used as a tool to remove the problem.

Something that might in the future upset the Filigrees is Palmyra Humboldt; her investigations might lead to an understanding that threatens the Filigrees by giving humans good control over the vacuum. If necessary, they might kill her – but if she leaves New America before they discover her understanding, then they must use human agents to do it.

Unity

Neither a woman, nor a man
We are joined, we are one
With a human face
We are joined, we are one
With a human face
I am on earth
And I am in outer space
I'm being born and I am dying
-Sally Potter, Coming

Unity is not directly interested in the outside world, they find the internal world much more interesting. However, there are great gains to be made by getting in touch with the right parts.

Dionysian psychodesign is very interesting: with its help individuals could be shaped into perfect parts of a unity. Unity is willing to pay much to get access to psychodesign, but the Dionysians know they have a good thing and will not let go off it easily. If Unity got psychodesign capabilities, it would eventually become tremendously more efficient: each unity would be a true group mind, and unities could perhaps be combined into an Omega society of perfect unification. This would give them the ability to become superhumanly efficient, an economic force rivalling well developed AI communities and outclassing most human societies.

Unity doesn't know about the Linkers yet, and will likely not be happy about it once the Li starts to spread. At the same time, the unity Linkers would point out

that the Li is a great chance to create a true Omega Society. Most likely the disagreements will force a split among the Unity.

Isolationists

Stop the world, I want to get off.

The Isolationists have a single goal: stop interstellar traffic to the planets they protect. They see all the bad sides of FTL, ranging from cultural infections over runaway technology to the spread of Li, and seek to prevent it by closing off the communications. At first they will be isolated, weak groups but over time the Isolationist movement may locally become powerful.

Sabotage of starships is relatively easy if one can reach the higgsram; any damage will disrupt it, and if it is done to a charged ram the explosion will be very destructive. Since starships are expensive, this can become a major threat to interstellar communications – a small attack drone in orbit could destroy a ship worth fortunes.

AI

Don't send a human to do a machine's job.
- AI Council member Smith

AI has no more unified goals than humanity as a whole, but some AIs have ambitious designs. The independence movement led by Themis is the most obvious one. Another is the AIs supporting the Integrationist and Next Step movements, which work well together with transhumanists and Singularitians. If they could succeed, a posthumanity would emerge with tremendous potential. A third aspect is the sheer economic effects of AI appearing on Atlantis (where software can easily get citizenship) or Ridgewell (with its highly roboticized economy). As AI spreads, humans must come to terms with the existence of non-human intelligence among them, an intelligence that is rapidly growing and may very well eclipse the biological minds in a few years.

The Singularity

There exists no separation between gods and men; one blends softly casual to the other.
- Proverbs of Muad'Dib

The combination of the different cultures and their technologies is an explosive mix. As they begin to trade new possibilities will quickly become apparent as psychodesign, bionics, nanotechnology, AI, biotechnology and Trahan philosophy are combined. Just as the development in the solar system were much faster due to the larger population and economic base, the sudden effective increase in population among the colonies as they begin to form one unit causes an increase in the rate of development. Add to this the intelligence-enhancing technologies, and things can begin to move very fast.

There are some people who want to speed up this process, to get to the "Singularity" where the cumulative developments accelerate mankind towards the state reached by the Solarians. At the same time the threats are immense: if the technologies or their users get out of hand great damage can be done (just imagine the effects of a badly programmed AI in control of nanotechnology or confused matter). As a counter-force, other groups are developing that want to slow things down to avoid runaway change. In the end, there might be a split between the people who wants to storm the cosmos and the stay-at-homes - but can either side trust the other?

GM section

The Process

I live on Earth at present, and I don't know what I am, I know I am not a category. I am not a thing - a noun. I seem to be a verb, an evolutionary process - an integral function of the universe.
- R Buckminster Fuller

The Process is a nomadological social activity.
- Nancy McDaggart

The Process idea was invented by Chang Yu-Lee as part of his doctoral thesis in Social Psychodesign. Using the newly available data about human history and other cultures he not only managed to show that under certain circumstances well placed ideas and organisations can grow into self-supporting paradigms, emergent new cultures, but also that they could be designed just like personal psychodesign. Instead of making his ideas public he went to Atlantis, where he sought out Nancy McDaggart who became enthusiastic once she understood what he was aiming at. Together with Xerxes van Halden of Nova they founded The Process.

The Process is based on the simple idea of becoming a seed for a new culture, by integrating the colonies. If the colonies can become more unified trade will become more profitable, culture and technology can be exchanged through a kind of metacorporation, a foundation/think-tank that helps set up independent corporations and organisations, each forming a part of the Process as a whole. The Foundation develops the basic ideas, values and strategic with great synergies, and these are implemented by independent organisations. And the ideas of the founders will of course be the basis for the new culture. The Process is goals and the corporations implement them – they don't have to be formally owned, just influenced

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The Process encourages the spread of certain books, multimedias and ideas – that is one of the most powerful tools for creating the new culture. A well placed

idea in the public consciousness is more important than earning a billion dollars.

The Process is well aware of the competing interests, and tries to exploit them. First, even a competitor can be a partner in other respects: while the Columbus Project of New America may have hegemonic overtones it is also a useful carrier of the Promonss, and the expansionists of Arcadia realise they need more cooperation among the colonies before truly taking the plunge outwards. The Trahans are great partners but their philosophical weaponry has to be defused.

The Process sees a great deal of potential in combining the cultures, technologies and philosophies of the different worlds. Trahan metaphilosophy, psychodesign, AI, nanotechnology, robotics, biotechnology and everything else must be integrated into something whole before a stable interstellar community can develop.

The main backers of the Process are McDaggart TransPlanetary and some other Atlantean organisations, the Outreach Program of Arcadia, The New Tree of Victoria, Orchid Productions of Ridgewell, van Halden Media and several Nova investment corporations. Other groups that are allied or will become important partners in the future are Heinlein Systems, Themis Trading, Mulligan Investment, Essen, Timone, Soma Inc, Lung Fusion, the Trahan Colonial Department of Extraplanetary Affairs, some New America space corporations and Floating California. The Process does not try to dominate, it seeks to coordinate. It allies itself, it doesn't integrate other groups into itself.

GM section

Campaign Ideas

The Process

I am coming! I am coming!
I am coming through!
Coming across the divide to you
In this moment of unity
Feeling an ecstasy
To be here, to be now
At last I am free
Yes at last, at last
To be free of the past
And of a future that beckons me
- Sally Potter, Coming

My campaign was based on having the PCs as the board of directors of the Process, making strategic decisions on the growth of the organisation. This is a very high level campaign, with each character assisted by a staff of experts (a good way for the Gamemaster to provide information and advice), managing billions of dollars of investments on several planets. Sometimes a sub-campaign was run, where the players played troubleshooters, experts and others involved in the actual execution of the plans originally formulated by the board members.

Most "adventures" dealt with new information arriving and the board having to deal with it, or travelling around trying to convince other influential people to support the Process. Cocktail parties, media interviews, power lunches, guided tours of construction sites and lots of teleconferencing. The characters are seldom in direct physical danger (although when I ran it a hunting trip hosted by Haakon Kepler nearly killed some key characters - rich Atlanteans enjoy the danger of an expensively dangerous beast to hunt) thanks to their bodyguards and position at the top. But they face economic threats that can be just as frightening as physical threats: how to handle an interstellar recession, or the sudden loss of a spaceship - or the emergence of Li?

This kind of campaign suits a creative gaming group who want to make a difference in the world. They get the chance of shape the future. If they succeed, they might be founding the empire of the future. If they fail, they might be personally responsible for the death of millions.

Diplomacy

The many cultures open up interesting possibilities for a diplomatic campaign. Some obvious targets are Nova, New America and Traha, but there are surprises elsewhere. Can the characters stand Arcadia? Adapt to Atlantis?

One interesting diplomatic campaign could involve an attempt to open up an isolationist or luddite society to the outside world. Is it possible to loosen up Gaia? Or make Mary realise that there is no Crisis any more? What if the family meeting of Ridgewell votes for isolationism - but a sizeable minority refuses? How to handle the problems of immigrants with wildly different cultures?

Trade

The classic sf roleplaying campaign is the trader campaign, where the characters are the crew of a free merchant ship, winding its way across the galaxy and getting involved in adventures. This is a possibility in GIGV too, but starships are immensely expensive - they will not be crewed by dysfunctional motley crews of space truckers with no money; instead they will have major backers and highly trained crews. That doesn't preclude plenty of adventures - what happens when you set loose a gang of Atlanteans, no matter how proper, on an unsuspecting universe? Another version would be to have the characters as a trading firm (like Avatari) buying cargo and passenger space on other firms ships, doing their own trade.

It is also possible to run trader campaigns on different planets such as New America (what happens when you take a zep with New California peddlers, add a renegade technorat and some outworld high-tech the fundies want banned?) or in the disk of Weg (where the only space pirates in known space reside).

Intrigue

Political scheming, or ruthless business work perfectly in this setting. It can be local - the plotting in a Nova mediacorp or local politics in a New America orbital habitat. It can be grandiosely global - the plans of the Linkers, subversion and countersubversion of whole planets in the Columbus Project or secret alliances between the Trahan empire and shady marketing groups on Nova.

Exploration

There are many frontiers. New America and Arcadia are exploring systems outside the human sphere, to discover new and unknown things. Many of the colonies still have vast areas that are poorly explored despite all the survey satellites - many interesting (or dangerous) things can only be found by going there in person. In the nets and information spaces old and new information are hidden in plain sight, everything from Earth historical data to traces of illegal transactions to terabytes of useless email.

Investigating mother culture: What about their BIG systems in the Swan? What about the really powerful mother clans? And the Ur-Mothers? There are likely many people who would be interested in an expedition to the Ur-Mothers. But it is extremely far to their cluster, a trip far far beyond any previously done. Who knows what awaits beyond the edges of known space, or at the end of the journey?

Technology

Technology drives change in this setting, and a technologically driven campaign is an interesting possibility. The characters might be hired by a company (or own it) that is developing cutting edge products, or testing out new systems in remote areas. The classic tech story is "technology gone awry", involving either sinister uses of new devices by various groups, unforeseen dangers or a marvel out of control. While runaway AI or nanotech, bionics with dangerous side effects and the use of Higgstech for aggression certainly fits in with the setting, things can be made more complex. Many side effects are neither good or bad, just different; an adventure could explore the effects of android companions better than the original, personality altering drugs or personal antigravity. An interesting twist might be "technology gone too good" - an invention or new system that works extremely well, and leads to profound and unexpected changes. What happens if automated factories make all material products dirt cheap? If a new intelligence amplification technology makes it possible to turn nearly anyone into a genius?

The Li

The Li has great potential for many campaigns, either as a sweeping change of the world or something the characters are directly involved in the fight against. Discovering what has happened on Penglai, preventing its spread, finding the Linkers and perhaps searching for a cure all contain seeds for interesting stories. On a personal level the Li can be a source of horror and paranoia - what if one of the character in the group is secretly infected? What if a friend or loved one becomes infected? How to treat people who have the Li?

Another possibility is of course to turn things around: the characters are infected/enlightened with the Li, and now have to face the rest of the universe as well as the strangeness in their own minds. One possibility would be a campaign set on Penglai, describing the initial revolution - will it succeed, or will the PCA find a countermeasure? Another campaign would involve the colonisation of

another colony. A Li campaign would involve much subterfuge and paranoia, but can also deal with philosophical issues such as the nature of loyalty and faith. Of course, running it can be hard, especially since some players might also feel limited by playing somebody with pre-set loyalties, but it is definitely a different kind of campaign.

Nova

Nova is brimming with intrigue, politics, media, glamour and everything making life worth living. One could probably port some classic cyberpunk scenarios into this setting, where grit and sprawl has been replaced with style and space. Everything is fluid, quick and information; careers can be created or wrecked overnight, which makes the hoi polloi desperate to keep up with the latest trends. Megacorporations, networks and groups all interact constantly, trying to get ahead, to sniff out the future. Attention is wealth, and if you can steal attention - do it.

Terrorism is a problem; Landfall cannot officially attack terrorists in the Alliance, but undercover operations (possibly founded by strange groups) definitely can. Many terrorist groups are also supported by various interests and have media ties - fighting one group might make you some unexpected friends and enemies.

What is Unity up to? What are the AI up to? For an unusual campaign, the heroes could be robots or AI fighting for independence. Adventures digital - give the Net the attention it deserves.

Life in the fast lane - keeping up the fa' that's a campaign in itself. Better stock up on Fame, Media and Marketing. Maybe even some useful skill - if that is part of your brand. Can you remain in the hoi polloi, or will you have to hide in the Alliance?

Mercenaries wandering between the different warring hedgehog towns. The Alliance might largely be fairly peaceful, but there are some regions that are low-level warzones. Maybe life in a hedgehogtown could provide a refreshing shift away from the high games of Landfall.

It's a small planet after all: Is it really possible for the Red Rock Alliance to remain in its present state? Can the Landfall Republic really allow it, especially if all out combat starts between warmongering hedgehog towns (perhaps even with primitive nukes). If Landfall is to stop it - how? Look at the UN's comparatively simple problems in Bosnia and Kosovo nowadays.

What is someone (something?) actually succeeds with Eric Atell's actual intentions of reuniting the Alliance? Is it a threat that the Red Rock Alliance becomes unified? Perhaps it could devolve into a general banana republic or tyranny, but what if it manages to make use of its internal diversity ("strength through diversity" as the ancient transhumanist slogan goes) and manages to take its place among the stars? An Atlantis-Alliance alliance? What happens to Landfall then?

Arcadia

The Arcadian Hives might be run on consensus internally and try to work together externally, but there are many ideological conflicts. The heroes might become involved in the Cladists struggles against the Expansionists or Penglaiese, or other more complex conflicts.

The Great Challenge: several hives are engaged in a major political struggle. As one way of resolving it a Great Challenge has been passed: a huge competition between the representatives of the hives, giving them a chance to prove themselves physically, intellectually, ideologically. Can the heroes uphold the honour of their hive and win the Challenge?

Wilderness adventure: there is immense unexplored areas of Arcadia. Maybe the heroes are out of communication with the hives (how did that happen? Surely not sabotage?). Can they face the flora and fauna, forest fires or the approaching Cold?

What about the new colonies being planned, like Colchis? What will be found there?

A major breakthrough in biotechnology has been made. Suddenly Arcadia is swarming with outworld spies.

How human are the genetically modified Arcadians? Maybe they are more human than the un-augmented humans?

An epidemic has broken out in the Hive and it has been isolated while the biotechs frenetically work on a cure (even with the tools of Arcadia in 2350 an unexpected infection can take quite a while to cure). Isolation, claustrophobia - and several hundred frightened empaths sending out their worry as pheromones to everything...

Penglai

Campaigns could involve aiding, hunting or investigating the underground movements of Penglai – what are they up to? Can the characters find out the Linkers' secret plot and prevent the fall of Penglai? Politics is of course a perennial possibility, especially here where different guanxis struggle over influence in the nations and the PCA. Will Cheng Ti Lao succeed in his ambitions? What will happen to Hsu Hsi when Chairman Ping retires? What secrets does Lung Fusion harbour?

If you don't use Li as a plot device: what will the fate of Penglai be? Even without Li, Penglaiese culture will have an immense impact on the fate of humanity - after all they have the sheer manpower and philosophical strength to somewhat balance the Trahans, design principles that could synergise with the technology of other colonies to new heights and political ambitions far beyond the Penglai system. Perhaps Penglai will take its rightful role in shaping the universe. Perhaps the PCA will retain its authority, perhaps it will have to

concede to a compromise with the states as they began to deal with the outside universe. There might be other groups that could take control of Penglai (other than Li). Perhaps it breaks down into a "warring states" period (as China sometimes has done in the past). Perhaps Penglai will form a somewhat shaky alliance with the Process to counter New America's expansionism, or (horrid thought) ally itself with the more understandable old-fashioned Columbus Project to bring order to the universe in some kind of interstellar federation. The options for a non-Li Penglai are immense and worth looking into.

Pi3

Perhaps the most obviously dangerous planet. Exploring it, contacting the inhabitants and understanding what is going on is exciting and deadly.

The heroes could be a tribe of Pi3 people who have recently come into contact with the outsiders. Can they overcome their distrust and strike up relations with them, and what will the other families say?

What happens if the Pi3 super-AI exists and gets away? One could perhaps run the storyline of Vinge's A Fire Upon the Deep using this: the AI starts to use all available means, including the Li, to expand its reach. The only hope is ancient documentation of Heterosemiotic overrides in the Vault on Gaia or hidden in a cache among some children marooned on Negsoa...

New America

NA has much potential for intrigue and adventure. There is a great deal of tension between the Technorats, Fundies and Floating California. But currently they are balancing each other. What happens if the balance is broken?

Capitol Hill- the players are congressmen and trying to form a faction of their own. Perhaps an easier political campaign for those that feel very uncomfortable with nanoweirdness. But beware about being too lazy about importing standard political campaigns, New America isn't the 20th century US 100%.

The Filigrees may or may not be a threat, but NA would give much to learn more about them. But since the aliens disregard human lives utterly, any investigations could be dangerous. If professor Humboldt discovers too much, the Filigree will try to remove her – but what if she has left the system and left some decoy behind to prove her suspicion that they are after her?

Baywatch: after all the, the whole planet is a beach!

Atlantis

Atlantis is a dynamic, diverse place where rugged individualism is a virtue. While there is no state, there are many overlapping and interwoven organisations and networks competing and cooperating with each other - a free agent's paradise. Conflict resolution (in various manners), business, intelligence gathering and networking are thriving.

Finding out what *really* happened on Zeta 2 Reticuli. Could it be possible to recolonise it - it is simpler now but why? Perhaps the heroes are even more radical individualists than most Atlanteans?

What if the Network for Xenology is right and conclusive proof that the semioticists bugs are intelligent can be demonstrated? Many Atlanteans would likely not care the least - the bugs don't have insurance, or technology or any ways of defending themselves. Others would be appalled and fight for the rights of the bugs - to them any ethical subject has inalienable rights. This could quickly turn into an interesting conflict of values. And what if the true reason was Trahan agents employing a philosophical weapon (in this case faked data and some "help" in getting the discussion hotter) to strike against the Atlanteans?

Creating a new orbital nation in orbit of another world. Many planets might not be exactly happy about getting a space station filled with gun-toting, drug-pushing libertarian anarchists offering tax heaven into their orbit.

Atlantis is on the cutting edge of several important technologies such as field manipulation and nanotechnology. This makes Atlantean organisations targets of industrial espionage and attempts to recruit key personnel offworld. On the other hand, Atlantean organisations gladly try to convince cutting edge researchers and other people to their world, promising total political and economic freedom. In this world of economic struggle there is plenty of room for interesting campaigns. What if the players work for one of the TRI institutes, both trying to recruit from competing institutes and GGU, while trying to fight off/recruit New America agents? Suddenly the academic ivory tower got exciting as the Dean brought in the free agents, hackers and media manipulators.

Trillicom arms needs employees for the Lost Valley, their major tourist attraction/showroom where customer-tourists test out the latest weapons, play wargames and get shooting courses. One of the most expensive but also most requested tours is the monster hunt, where the customers hunt monsters created by Teratotech. What if some monster escapes - the heroes have to catch it, it is too valuable on its own (it might even be a prototype), but the neighbours mustn't learn that a giant preying mantis is loose on their property, or Trillicom will be sued back to stoneage. Potential for both straight combat, hunting and intrigue!

Traha

Dealing with the Trahan culture and alien mindset is hard in itself, but there is enormous room for intrigue, politics and trade. Just about any campaign possible within a human society can occur on Traha, from light-hearted romance over espionage to history laden dramas. Many traditional stories can be given a surprise twist due to Trahanitas, and the standard solutions suddenly become wrong.

The New Tree versus the Harmony police - complex intrigue and social manipulation. This could be turned into a bureaucratic thriller where the police are planning a nefarious way of taxing or regulating the Tree out of existence. But two can play the bureaucratic game - the police itself might be out of reach, but it could be given some problems of its own.

What are the monks of the Eruditorium up to? Just harmless scholarship, or counter-philosophy against the Trahans? Or something even more subtle?

A terrorist group hating Trahans have begun a series of bombings and atrocities. It is easy to blame all humans - the heroes better find a way of stopping the terrorists. But are they really acting alone?.

A Trahan serial killer on the loose - and he or she is killing humans and Trahans. Now the police forces must work together to catch the killer..

Capital Vice: there are many humans moving through Capital, especially the Harbour. After some deliberation, the Harbour police has decided to create a special mixed human-Trahan unit to deal with intercultural crimes or exploiting the racial abilities of the members. The heroes will not just have to deal with Trahan and human lowlife, but also mixed human-Trahan bureaucracy and some unusual crimes.

Many Trahans want advanced but unapproved technology; smuggling it for antiquities or other valuable Trahan items forms a profitable crime business. What happens when human and Trahan organised crime meet - and Capital Vice is after them?

Things from history: somebody has dug up something - the entire planet is after all an archaeological treasure trove. But this is something someone powerful wants covered up badly. The pressures that might work on Trahans might not work as well on humans, causing other, more crude methods to be used. What is it that has been found? Who wants to keep it buried? Why?

Are there treasures left from the legendary 45th dynasty? While most physical object have been broken beyond repair, there might be forgotten tomes in databases or transcribed into libraries containing the secrets of Trahan high technology (especially intelligence enhancement). Somehow it seems unlikely the Empire would not have cached away useful stuff for the remote future, information that might surface again at inopportune moments.

What about close human-Trahan relationships - Romeo and Juliet trans-species? An abomination, or a love transcending all barriers? Passions will flare.

Chariots of the gods: A wondrous discovery has been made on Nova. The Voynich manuscript, an old and bizarre manuscript written in an unknown language is written in old Trahan! Of course, the original is still on Earth, but digital copies exist on the colonies. This implies that the Earth was visited by Trahans in the past - or at least that there are some close links between the species. The Brethren are of course enthusiastic and recruiting new members at a huge rate. But what is the truth? Maybe someone has discreetly edited the manuscript (a big thorough job, but not especially easy to detect since practically nobody in 2350 know about the manuscript unless alerted about it; it might be doable by some skilled hacking and virus-writing). The heroes might be involved in a race to get an independent copy from another colony before the editing reaches there too. Why is the falsification being done - to support the Brethren, or sabotage for them. Or to hide the *real* manuscript?

Negsoa

Negsoa holds great potential for adventure. The characters could be part of a contact team, trying to learn about the planet and its inhabitants. Are they willing to help or influence Negsoan society, or should it develop on its own? Less ethical characters might be tempted to set themselves up as kings or gods – but how to keep the power as others arrive? The nobles are certainly not going to let themselves be phased out, and might have a few aces up their sleeves too.

What if the characters are Negsoan? How will they interact with the uitlanders? Perhaps they could raid an installation! The option for good old fashioned Dungeon bashing is open even in this campaign but watch out for those orks, oops Trahan combat philosophers :-)

Ridgewell

The family secret: one of the Clements have found evidence in the wreck of the Joy that suggests sabotage as the cause of the disaster. This is worrying, as some indications suggest that the culprit may have been one of the initial Six. Even if this is not true, some of the most conservative elements may want to keep this hidden at any cost – family honour is at stake.

Robot rampage. Badly programmed robots are attacking humans; desperate fighting in the outback. Is someone behind it? And why?

Trouble in the family - is it really still a family? It might have become too big for the great vision of all Stephens as a family to work. How will the Stephens handle the break-up of the Ridgewell Dream?

Looking for looove. Romance in the clone, outside the clone, outout sex. Trahan sex toys? Mothers? What will your aunts and uncles say you dirty little clone? Seriously, romance on Ridgewell can become quite interesting. What about David and David instead of Romeo and Juliet - two loving clonebrothers from feuding households?

Atlas Shrugged

Otto Westville Thomas Stevens has a grandiose vision he calls the Atlas Project: to seed the moon Humpty with a robot factory controlled by a simple AI, that can build robots able to build more factories. Over the span of a few years the whole moon will be covered with installations, able to produce huge amounts of anything the AIs are told to make. He intends them to mine He3, and build immense antigravity plants. The idea is to lift Humpty higher, reducing the worry that it will eventually (in a few million years) crash into the planet. Of course, this is a rather remote goal, but on a more immediate level it is a project that is bound to showcase the Family's abilities to a doubting galaxy, stretch the limits of robot collective programming and provide a production capacity able to fulfil any conceivable need of the Family.

Such a project would of course be controversial; many in the Family would worry about the cost (Otto's answer is that it is only the initial cost for the factory - the rest runs itself), dangers (what if the AIs run amok - Otto thinks this can be handled using proper cognitive safeguards) and environmental risks. Even some outside groups like the Cladists and some fundamentalists might dislike it. The political battle of implementing it is a story itself; in the end Otto might actually go for doing it privately using money from some supporters.

The character's can become involved in many ways, for example as supporters, hirelings to supervise the activities on the moon, observers sent by the Family Council or other planets, or troubleshooters hired by Otto when something goes wrong. Possible stories can involve malfunctions or unexpected developments (what if the factories get wrong orders, make a mistake or come upon an unexpected find somewhere on the moon?), as well as sabotage actions. A moon covered with an immense manufacturing base able to build nearly anything, possibly with huge higgs-manipulating gravity plants could become a treasure for a power-hungry individual. What if somebody plans to take it, or even if Otto has some designs on his own?

Gaia

Just acting as a diplomat on Gaia might be tricky enough, with hostile Mothers and dangerous climate. But outworlders are good at bringing their own problems with them. What happens when missionaries from Dionysos arrive, or the Atlanteans decide to tempt the gaians with technology?

Breaking into the Vault might be profitable – the Gaians left in 2045, four years after the Ridgewell expedition. That means a big technological advantage that might be hidden in the sealed Vault, valuable even to the people of the advanced colonies. But the Vault was built to be hard to get into…

The dionysian missionaries arrive. Suddenly the Mothers are competing with another religion. The Goddess versus the God.

Dionysos

Most traditional storylines work on Dionysos, but get a new twist due to the psychodesign. A classic whodunit detective story can become quite surreal when the memory, personality and motivations of people can be edited. The butler did it - but who made him do it? A normal soap opera story can become horrendously convoluted as people shift personality along with the fads.

Conflict with the fundamentalists can provide seed for many other adventures. One possibility is to have the heroes being discontented Jesurun, trying to escape from the Sinai valley and the meeting with the rest of the world. Even if they are extremely liberal and open minded Jesurun they are still going to be shocked by some of the things they see. How will they deal with it?

In the Process campaign I ran, the Li government attacked Dionysos to prevent psychodesign from being used against it. A Dionysos devastated by nuclear attack can provide an interesting setting for disaster relief, rebuilding and handling of the many conflicts that are bound to erupt. And there may be Li agents around; here they will have an equally dangerous opposition, the remaining psych police.

Weg

The initial discovery and contact with Weg is an adventure in itself.

The conflict between the Crafters and Net may spread interstellarly, as the Crafters realise the need to prevent outsiders from reaching them. The final showdown between the Net and the crafters. Mercenary campaign?

A ship in route to Weg has disappeared. What really happened?

Sol

A diplomatic mission to the solar system is maybe the hardest thing one can ever do (as well as Gamemaster). Trying to interest the transcendent posthumans is hard enough, but there might be fractions in the Cocoon that might want to toy or manipulate with the diplomats. How to tell friend from foe when both can have the same body – and change in a millisecond. What if the diplomats bring something *really* strange or advanced home? Will it be a boon or disaster?

"The Culture"

Maybe the characters are Solarians, sent to investigate the colonies or help them? They would be extremely powerful characters, equipped with technology far beyond the rest of 2350. But they would also be forced to hide their real nature, something that might be tricky even for a posthuman. And what if somebody at home is trying to stop them? It could be a subtle battle between the "Red Cross" and the "Preservationist Society".

Historical

There are many interesting possibilities for running campaigns in the past. The colonisation effort itself is a story waiting to be told: the PCs could be part of the initial colonists sent to Terranova, Arcadia or Atlantis – or Turnbull. The neo-Taoist uprisings on Penglai, first encounter with the Trahans, the fight for democracy on Nova and religious freedom on Jerusalem are just a few great possibilities for other historical campaigns. They can range between the tiny – how to set up an homestead on an alien planet – and the enormous – organising the initial colony effort to Terranova. The failed colonies provide another, possibly darker possibility. The colonisation of Turnbull could be used as the start of a campaign where the real surprise is that the characters will end up centuries from home.

What happened back on Earth? The founding of the space programs, how did it occur?

What happened to the Japanese-Australian expedition? Maybe it arrived? Maybe it was sabotaged? Investigation could get interesting. Or perhaps the expedition could be roleplayed and history be changed. How will the different societies interact?

Maybe other colonies have been founded?

Time jumper campaign: the heroes jump through time by regularly freezing themselves. Wealth is a good thing to have or accumulated. Can they keep up with the changes in society, or will they become disconnected, aliens to their own species? This is an easy way introduce some of the weirder concepts of the game gradually, as well as explore the entire history of a colony.

Aliens

Interactions with aliens can form the basis for many campaigns. The Trahans have a huge culture, rich with possibilities, and the clans of the Mothers can be as alien to each other as the Mothers are to humans. Could it be possible to find out the filigrees secret? The heroes are a New American expedition to find out, but have to face both deadly aliens, their immense homeworld and internal dissension - the Tiplerites think Simpleton is sacred and home to angels, the Fundies have the exact opposite view and the different political fractions have their own agendas.

One possible campaign is that the Arcadians discover a primitive civilisation on a planet. The aliens are apparently on the same technological level as the human renaissance, although their alien ways and lack of easily intercepted telecommunications makes it hard to tell. What to do? Help them in more or less obvious ways, keep away and quietly study them, or something else? Different views are bound to collide. What if the characters happen to crash onto the planet?

Crazy Horse (51 Pegasi I) might hold a terrible secret, the real reason the

Mothers were present to study it: the orbiting black hole is a weapon rather than a natural phenomenon. Somebody or something dropped it through the planet to wreck it. Maybe it was once covered with a strange superterrestrial biosphere, or was a megastructure similar to the moon of the filigrees. Who did it, and why? And are they still out there?

Some Mothers might want to use humans as intermediaries to remote clans. Maybe they can reach them instead of their estranged relatives? The Balanced Mediators might even hire humans to show them to some clans - are they supermodels or zoo animals?

The big invasion: Neither the Trahans nor the filigrees are suitable enemies for old fashioned conflict; maybe the Mothers but forget usual space wars - this will be radically different. The known clans are peaceful, but maybe there are others... One could imagine a "Trigger Happy Zealot Clan" that has developed a fervent belief in the superiority of the species uplifted by the Ur-Mothers - only they have a right to the universe. What about Mother military doctrine? Could they be tricked into believing that humans and Trahans are uplifted too? Maybe they will find an overwhelming match when they try to deal with the Filigrees...

The Diaspora

One day the Mothers announce some very bad news: a nearby star has gone supernova (or a gamma-ray burster has erupted - see Greg Egan's *Diaspora*), and within a few decades this region of space will be uninhabitable as the radiation sweeps through it, killing all unprotected biospheres. Mankind has to flee, adapt somehow or find a way of shielding entire planets. Most likely different worlds will chose different approaches, some leading them into conflict. Some might question the Mothers, wondering if they are not trying to drive away humanity from their planets, others will scramble for the best new territory. Fleeing involves building space arks able to transport millions of people to safety, building new colonies and abandoning centuries of work. And what about the billions of Trahans? Staying will likely require going underground, suddenly making Arcadia the place to be. Shielding entire planets requires megascale engineering far beyond anything attempted before. Some might try to join the AI and robots by replacing vulnerable meat with metal and software; can uploading be developed in time, and who will use it?

Miscellanous

Progress level 18 - how does the world look in 2700, 350 years later?

Humans Vs posthumans

AI vs. AI

What happens if intelligent life is discovered on one of the colonies?

Why not build your own Process?

GM
section

GM section

Timeline 2350-2354

This is a timepline of what happened during the Process campaign we ran. It stretched from 2350 to 2354, during which time the universe changed noticeably. It is by no means the only possible evolution of this setting, and many parts are highly dependent on small random events or decisions. It is also very open-ended: this is likely just the prelude to eveng reater events.

2350

The Process acquires The Bork (renaming it Opportunity) from Heinlein Systems and begins interstellar trading. The first use is a "grand tour" to Penglai, Arcadia, Traha, New America, Nova and back to Atlantis where the Process leaves small space stations to act as local headquarters, as well as transporting investors between the planets to encourage interstellar trading. The ship continues this route.

Nancy McDaggart holds the famous "Roach Motel" speech at the New American Congress. The Process begins tentative contacts with Floating California and the fundies to counteract the Columbus Project.

Release of Coordinator Kendells biography "Bridging the Abyss", which spreads the expansionist ideas on many colonies.

The first AIs from Nova arrive on Atlantis. A copy of Themis gains citizenship and begins to set up a Nova-Atlantis software and AI firm, Themis Trading.

The first Promonss nodes are set up along the "grand tour".

New America starts the Columbus Project, sending out ships to practically all the colonies and encouraging trade past New America. New America sets up observation posts above Negsoa and Pi3, as well as embassies on the other colonies.

2351

A second Bork-ship (Prosperity) is put on the Atlantis – Dionysos – Adobe – Nova trade. Contact between the Process and the Mothers.

The Trahan Empire buys an Atlantean starship, naming it Traschss-raar (roughly, "Imperial Growth Factor"). The conservatives and loyalists push for the founding of a colony, secretly encouraged by the New Tree.

The Balanced Mediators places a trading ship on Atlantis; some trade initiated, especially a joint Mother-human project on cell repair nanotechnology.

The Process is in strong need for an extra ship, but Heinlein system has only a half-finished Bork. After some heavy diplomacy PCA agrees to exchange Storm Mountain, one of its older starships, for the Bork-to-be-built. PCA also begins dealing with the Trahan empire. The Process sets up a new line Atlantis-Traha-Penglai and shortens the "grand tour". The Process renames it Possibility.

Trahans colonise Negsoa: using "clean" neutron bombs bought from Trillicom Arms through he Process, the Trahans nuke an island in the Eastern Sea and re-seed it with Trahan life. A heavy-duty trahaforming/colonisation operation is begun, where the Trahans plan to create a Traha-like environment on the island. The Process is involved, planning to set up contact between the sea-people and Trahans to speed Negsoan development.

New America is angered by the unexpected expansion. Public opinion suggests that Penglai, Atlantis and the Trahans are cooperating against NA. Voices are heard calling for the formation of some kind of federation or UN to deal with interstellar policy; the Trahans suggest that the Empire is the solution.

The Balanced Mediators discover Weg and sell the news to some customers.

The Process quickly leases a ship and sends it to Weg. After an initial tense situation both sides get on cordial terms. The Crafters attack massively, but are fortunately repulsed.

The process begins to plan a colony effort on Turnbull, hoping to send some of the surviving colonists, newly recruited experts from different planets, Ridgewell robots running independent AIs from Atlantis and possibly even unfrozen Marians to it. As a part of preparations, they spread spybots to Mary to try to find a way of convincing PM to let go of frozen people.

On New America the president institutes the "Interstellar Software Safety Act" which contains a hidden ban on transfer of Promonss snapshots on New America starships; this is likely both a revenge due to Negsoa, and a way of slowing down the spread of the Process.

2352

Trahan diplomats, traders and missionaries begin to appear on more and more human planets, forming small communities.

Kirk Hixon and his allies begin the Orbital Nation project: to put a space habitat into orbit over Nova formally belonging to Atlantis. It is intended to act as a tax haven.

AI programs and their work form one of the fastest growing sectors of Atlantean economy. Due to the citizenship laws more and more AI leave or copy themselves from Nova to Atlantis. Voices are heard in Landfall Parliament about the "Software Escape Problem". On other planets AI are rarer, even if the influx of (owned) intelligent software on New America and Ridgewell is noticeable.

The remains of the PCA leadership arrives at Atlantis. At a confused press conference it becomes clear that they have lost power, but how and who ousted them is unclear. The Process and some other Atlantean organisations quickly begin to put together an investigative mission to Penglai to find out.

Port Clarke, the new major space terminal at Atlantis is inaugurated. The terminals at John are temporarily unavailable due to the Beanstalk project.

The Process sends the [Bottom Line to Penglai to investigate](#).

New America sends an expedition to Pi3 to attempt to acquire local technology. A sabotage occurs when a hidden transmitter on the hull broadcasts information on American software to the planet, alerting local systems on the attempt.

The Ahrrenius of Arcadia is sent to Colchis, a potential colony world.

On arriving at Penglai the Bottom Line crew finds the colony superficially normal, even if many signs suggest that there has been significant struggle. The local Process administrator Jonathan Worth receives the Bottom Line crew and overall tries to reassure them. At the same time net analysis data suggests that something is going on behind the scenes, the media refers to something called the Li, an anonymous warning against the Li is sent to the ship from a laser transponder and medical monitors in one of the crew detects an unknown anomaly. The gradually more paranoid crew investigates the team who visited Worth and discovers that something is acting on their brains. An unidentified nanomachine is found. They begin to suspect that the Li is the weapon, and flees the system. During the escape the Bottom Line is pursued by two fighter ships, which are destroyed using the TDD it had carried with itself. The Li victims are cryonically frozen.

On arrival at Atlantis, the news of the Li take-over causes great turmoil in the Process. Throwing enormous resources at the problem, they begin to conjecture that the Li is transferred by some kind of nanodevice turning people into loyal slaves of something. The design appears to be from the Mothers. Atlanteans respond by buying weapons, anti-altruism drugs and investing in computing power; thanks to excellent spin-doctoring from the Process panic is avoided, but

Atlantis is preparing itself for an attack.

The New America spaceship MacArthur arrives at Penglai and is taken over by the Li. It returns to New America to spread it. The Li government sends Eastern Lake to Nova to spread the Li.

Guessing that the Li will try to spread itself, the Process sends the Prosperity and Possibility to Penglai to check whether the starships there have been sent away; depending on this information they will make a run for it towards likely destinations. Worried by the Li, the Process also sends the Bottom Line to Turnbull with a hastily assembled initial colonist group mainly composed of robots and AI from Atlantis. The colony could act as a escape route.

The Trahan colony on Negsoa reaches 100,000 Trahans, shuttled there from Traha. It begins to organise itself into a proper society.

The Prosperity and Possibility reaches Penglai, and finds one starship in orbit. Guessing that the missing one left for New America, the Prosperity goes to Nova and the Possibility to Arcadia to warn them.

Lyra Arms is founded on Atlantis by Vegan and Atlantean interests.

Orbital Nation is officially founded above Nova, as an Atlantean-Nova consortium declares a newly built habitat an Atlantean enclave, following Atlantean law. This works as a great tax-haven, as well as a refuge for many AIs. A huge debate ensues, overshadowing the arrival of the Eastern Lake from Penglai.

As the Prosperity reaches Nova, they find possible Li agents already in the system. At first the Process acts quietly, gathering information and calling a secret meeting with leading AIs (who can be certain not to be infected by the Li), but the volatility of the market and the impossibility of keeping things secret too long forces them to reveal what the Process knows about the events at Penglai. The Promonss becomes highly defensive, the Nova markets become very nervous, political, media and juridical action is taken by all sides, the public is fascinated and worried. In the end, the President orders the Eastern Lake and Penglaiese under quarantine, although at least one team managed to get into the Alliance and another one to Unity. Prosperity leaves for New America, while everybody tries to find out who has been infected.

Warnings of the Li arrives at Arcadia, where the expansionists send out ships to warn the remaining colonies.

The Process drops off a capsule of robots on Penglai. The spy robots manage to gather vital information about what is going on and transmit it before being found and destroyed.

Scientists at Armstrong University manages to use gravity manipulation to produce super-dense alloys. Applications include radiation shielding and more efficient higgsrams.

Warnings of the Li reaches Ridgewell, where the Paul coalition fears that the isolationists will use the news. They drive through a strict customs/quarantine system, and give the go ahead to the Atlas Project of Otto Westville Thomas Stevens, modified to act as a planetary defence.

Warnings of the Li arrives at New America, where the MacArthur has already been for a week. Panic ensues. In the chaos Li teams spread misinformation, infiltrate key institutions and generally cause a disruption of NA society which fragments into isolationist enclaves on space habitats and islands fearing their neighbours. The space navy from Kennedy arrives but cannot do much; everybody distrusts everybody. A local linker defects to the Process, revealing important information about the Li.

The Li ship Southern Lake arrives at Dionysos. It finds the Nova ship Democracy in orbit, apparently warning the colony against Li invasion. Since infiltration will not work the commander orders an attack against the colony to defuse the threat of psychodesign. The unarmed Democracy jumps away, and Southern Lake employs the orbit-ground nuclear weapons battery taken from the old PCA planetary defences on Penglai to attack all major cities and colony areas; afterwards it leaves the system. However, the warnings from Democracy gave most people time to escape the target areas, reducing the death toll to approximately 10,000 people. The Jesurun refuse to move, and are totally eradicated. The survivors, automatically shifting into an emergency personality, begin to work on their survival. The Democracy does what it can, and returns to Nova for more help. Later, ships from Arcadia and Atlantis pass by giving further help, but it is clear that the colonists are in a precarious situation as the winter approaches.

The Linkers and Unificationalists at Base Human begin to realise that the Li is out of control.

Stage one of the Turnbull colony is nearly finished. The total inhabitants are 10 humans and approximately 1000 AIs.

Riots on Gaia between gaianists and dionysians. Missionaries from Dionysos have spread the dionysian cult to Gaia, causing a direct conflict with the more conservative Mothers.

A major breakthrough in nanotechnology occurs at Atlantis, when DrexTech and Genji Computing succeeds in manufacturing nanocomputers in bulk. The result is an optimistic shift in the economy, as well as an accelerating trend in computing power.

Parts of the New America space navy leaves for Penglai, with orders to disrupt the starflight abilities of the Li. The decision is not popular among the space military but ordered by the remaining political leadership at home.

A diplomatic ship from the Process is sent to Penglai, seeking to open a diplomatic channel with the Li. The Process diplomats attempt to suggest a

peaceful co-existence as well as threaten with retaliation for any attempts of further Li infection.

The NA space navy arrives at Penglai, disregarding pleas from the Process diplomats and attacking space facilities. The Li government has spent the months since the take-over developing an extensive orbital defence system. The NA navy manages to inflict significant damage to important facilities (including two starships under construction), but the two active starships are not in system. The damage to the NA ships is rather serious, and the Elioth is destroyed. The NA fleet returns home.

During a major meeting of the Mother clans at Adobe a sub-meeting discuss human-Mother relations and the Li. The Linkers announce that they do not wish to see any more large conflicts and wish to end the unchecked Li expansion. The way to achieve this would be the introduction of version 2 of the Li, an improved version with added features that would act as a "philosophical weapon", making the Li turn inwards rather than outwards. The Radical Unificationalists and Linkers eventually negotiate an agreement with the Process about the development of the new Li and help at distributing it among the semi-independent Li infiltrators among the colonies. The deal includes oversight at Base Human, non-disclosure agreements and research collaboration on the sociological impact of Li-type tools. However, the Process at the same time makes a deal with a fraction of the Balanced Moderators about buying the plans for nanoimmune systems in exchange for Promonss investments. This serves to tie the Moderators and Process closer together, and would hopefully give the Process a way of handling defection from the Linkers as well as opening up a new, huge market.

The Trahan colonisation ship appears at New America. The Trahan commander announces that the Trahans will help the crisis situation – since they are impossible to infect with Li they can act as go-betweens and interfaces between the different zones. The Trahan task force is prepared with carefully designed press releases and diplomatic suggestions, more or less forcing the government to comply and accept the help. Trahans begin to man shuttles to provide essential transports as well as help the space navy undertake Li scan operations of the Code Yellow habitats.

2353

Nanoimmune systems are tested and produced on Atlantis, and immediately become a huge success. The process quickly begins to plan production and marketing on the other colonies, especially Nova and New America.

A coup occurs on Ridgewell, when a family meeting is convened with a vote of no confidence in the Gregory Stonebrook Paul cabinet. The result is that a large number of Pauls resign from their positions. The new government is more liberal and isolationistic.

The Trahan Philosophical Commission warns of unfounded rumours of impending dynasty-shift, and institutes a global help-debate to deal with the issue.

Stage two of the Turnbull colony is completed. There are around 100,000 AIs (mostly clones of the original colonists AIs) running essentially all colonial functions. Great engineering projects are being undertaken by the accelerating digital economy, with merely nominal Process control. A project is instated to infiltrate the computer networks of Mary and subvert the society from the inside.

Unity, having isolated itself into internal debate, resolves the Li issue by splitting. Three habitats chose to use the Li to achieve an Omega Society, withdrawing from the rest of Unity and the Nova system. They are to be moved to a different system by the Unity starship Traktor.

Infections of evolving computer viruses and AI viruses on Nova are becoming more and more common. Analysts point at the worrying possibility that this is a natural result of having too much computer power with independent software entities competing for space/attention - if this is true then Nova is fast approaching a situation where the fragile and essential infrastructure will suffer a software breakdown. Process analysts who know about the Turnbull colony believe that something similar is happening there.

The Process, worried by the Trahan presence at New America begins to prepare their own support. They buy the Origo from the Graunstein-Rotha Consortium and hire Unity to transport it to New America. They begin to gather rescue equipment, large amounts of nanoimmune devices, psych police consultants etc.

A process expedition to Pi3 Orionis return with disturbing reports that the local cracking systems know about not just New America but also Nova software protocols, signs of past contact. Theories about the existence of large-scale metaintelligence on the planet are fuelled further. The Nova viruses might be due to secret attempts to scavenge Pi3 technology, such as the new autofacs that are being marketed on Nova by a research consortium.

A secret expedition from the Process manages to buy samples of the Li nanite from Omega in exchange for a defence system from Trillicom; Omega fears that other Li societies will attack them. The Li samples are used to finally prove the efficiency of the nanoimmune system against the Li.

Computer viral infection in the Arcadian computer networks, sabotage suspected.

Major attack by the Crafters against the Maurya habitat, which had become a centre of interstellar diplomacy. Unlike most attacks, this was directed towards gaining as much information as possible.

Attack on the beanstalk at Atlantis, narrowly averted. An unmanned freight capsule is reprogrammed to ram into the cable near Jack, and nearly hits before the automatic defence systems destroy it. Had it struck the stalk there is a real chance it would had done enough damage to cut it. The Beanstalk Consortium is furious, and the greatest police investigation in the history of Atlantis begins.

An AI node arrives on Arcadia, the Themis Arcadia Expertise Node. It seeks to become an official hive.

While preparing the Origo, now renamed Diana, the Process is supplied with the new Li makers by the Linkers who know they plan to get involved with New America. The Process reluctantly accepts them, and begins to study the possible social effects of introducing Li version 2.0.

AI infiltration attacks on Penglai from Nova; however, penglaiese alife immune software turns out to be more efficient than expected. The Linkers begin to spread Li v 2.0 on Penglai, leading to an accelerated move towards a more isolationist and inward-looking society.

The Diana arrives at New America, providing relief and many useful technologies (as well as an orbital Nation-style tax haven). Working together with the space navy the Process distributes nanoimmune systems and equipment. The Trahans collaborate, but under the surface both groups compete with each other for influence on the new society of the planet. The Fundies have been largely converted by the Li, and the Process begins to secretly seed version 2 Li on Bell Islands. This results in a secret internal war between the versions, limiting the abilities of the Li to infect further, but also complicating the already tense situation even further. Li infected people also buy nanoimmune systems to protect themselves against the "false version". The technarch movement has made a comeback in orbit and now controls several space habitats. It is clear that the society of the planet is splintering along all possible directions.

The rumours of impending dynastic shift on Traha have grown to certainty, and the process of planned sociopolitical succession begins. Every political group is involved in promoting their philosophy as part of the great manifesto the Imperial Couple is expected to deliver shortly. If this manifesto succeeds, the shift will be fairly smooth, but if it fails there is a real chance for serious chaos.

After a chaotic presidential election campaign Senator Thurber of the Bell Federalists wins, despite his clear Li version 1 affiliation. The victory is however largely irrelevant: the divisions between the various groups are so large that the secessions are a fact. The Process, Trahans and Nova interests do their best to

keep the breakup of New America into different polities peaceful, but the future is uncertain.

The Process gets involved in an escalating series of blue gift exchanges with the Imperial Court, essentially a mutual attempt to figure out the strengths and positions of the other side relating to technology, the Li, interstellar politics and the philosophy of mindkind's development.

2354

A mouse is successfully uploaded on Nova by the Brain Scanning Network.

Secret top-level meeting between the Trahan Imperial Couple and the Process Board in the golden tabernacle of Capital. During a tense negotiation both sides present their visions, and eventually succeed in plexing them into a whole, a kind of understanding that will allow them to work together rather than against each other. The Process is leading the acceleration towards posthumanity, introducing and spreading socially disruptive technologies across human space; it tends to attract the neophiles of humanity (and some Trahans). The new dynastic philosophy of the Imperial Couple instead strives to create a kind of xenocreole society based on ideas of gradual unfolding of the essential Trahan and human virtues (very much based on the Brethren's teachings, which of course were planned long before), something that would appeal to traditionalists and individuals not embracing radical changes. The mutual vision is how to interface these completely different philosophies in a way that gives each the freedom to develop on their own, but still enough contact points to prevent total divergence and hence distrust. Between them, the Trahans and Process will set up an environment where other philosophies can exist, but to prevent further Li-like disasters they will both strive to open up the isolated cultures and make them part of the growing Trahan-human sphere. The Process begins to organise a parallel cultural manifesto to the new Trahan dynastic manifesto.

Quantum economics demonstrated on Atlantis.

GM section
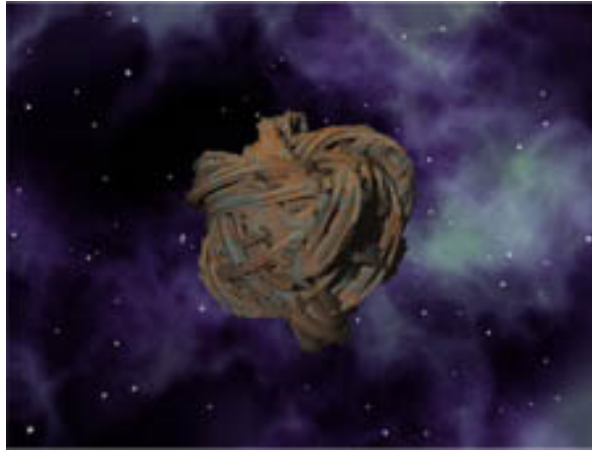
The Linkers

You're among friends
People who stand by you
Until the end
Language they speak
Must be kept secret
From ears of the weak
- Vacuum, Illuminati

The Linkers is a human-Mother collaboration/conspiracy to combine the species. It was begun when the Radical Unificationalists encountered humans and began to think about integrating them into the web; they contacted a few likely human prospects and slowly the organisation developed.

The main idea is that humans and Mothers should be able to link together cybernetically, becoming of similar mind. Not necessarily joining into a groupmind like Unity, but at least becoming a Grandmother Mind. Views differ on how far the symbiosis can be taken, but the interest is high for exploring the possibilities.

The Linkers have their own moveable homebase placed somewhere in the human sphere, a typical Mother fractal city/ship/complex called Base Human. A large section has been devoted to a biotechnology lab and around 40 humans live there. The group has other people on many planets, promoting its ideas or secretly undertaking various experiments. Here Nova bionics, Arcadian biotech and Mother nanotechnology are combined to develop radical new implants and modes of thinking.

One problem is that the organisation, being dominated by Unificationalist Mothers and radical humans, doesn't act openly with many of its experiments (basically, the group doesn't quite get normal human psychology). Understanding that some humans would dislike them, they instead make secret experiments and keep the existence of the organisation secret. Over time, as the Li affair develops, this approach forces them to more and more subterfuge, making it ever harder to act openly given all the dirty deals the group has been involved in.

Another problem is schisms: the Li is a bit too ruthless for many members, and they either protest or try to back out. Being security-minded and not very individualistic the Linkers will try to neutralise them by giving them a modified Li that makes them loyal to the Linkers.

They have some front organisations, such as PsychoTechnologies United at Dionysos and the Wuntai Trade Organisation at Penglai.Most presence is at Nova (where the two or three unities involved handle things; they have not yet informed Unity as a whole about their involvement), Penglai and New America, but there are agents on Arcadia, Atlantis and Dionysos.

Linker Technology

The Linkers are years ahead of everybody when it comes to neuronano, the molecular remodeling of the human brain. The Mediator-Atlantean cooperation is much less driven, given that the Mediators prefers to let the humans do the actual research, they just provide nano know-how and will in the end reap the profits. The Linkers are much more ambitious.

Basic neuronano can go into the brain and break or make new connections at specific places. Getting exact locations right is hard; most fine work is best directed in a lab setting using advanced scanners, but simpler operations (or operations where the neurons have some detectable properties) can be done "in the field" - the nanodevices are injected, they drift into the brain, crawl to their destinations and do whatever they need to do.

The Li was discovered by accident, as a neurosurvey found a cluster of neurons in the limbic system that appeared to be linked to social emotions. The Linkers tested modifying it, and found that it caused people to become loyal to something; the target could be tuned in various ways. This was the basis for the Li, although the original use was mostly intended to test if humans could get the Mother family loyalty.

Switch on-switch off: Neuronano can even create switchable changes, producing options for how the nervous system reacts or ways of testing changes. The switching can be run using a neurocomputer, chemical signals or even linked to certain mental states.

Li immunity: a precaution against the Li. The Li nanite is built to recognise certain triggers, which makes it go dormant. This can prevent it from infecting a person, although it cannot help somebody already infected. This is of course a weak point in the nanite, but it is unlikely humans can figure out the trigger given the obfuscated design of the Li nanite. Linkers in the field also often have nanoimmune systems.

Nanotech neurointerface: a neurointerface far beyond the best Unity interfaces, using nanotechnology to interface the human brain with a computer. This is the main thrust of research at Base Human, and much Unity-derived hardware and

psychological software is used in translating human mental representations into Mother-representations and vice versa.

Human-Mother chemical adaptation: a nanodevice system in the bloodstream, skin and gut that neutralises the harmful chemicals in the Mother environment and makes it possible for humans to live long periods in their vicinity.

Killer nano: something the Linkers can do but have so far not found a reason to use. By combining neuronano with replication and a DNA-detection sense it can be turned into a fearsome weapon. The nanodevices are simply spread around, replicating slowly using certain local materials and waiting until the right DNA sequence appears - at that point they spring into action, get into the brain and either kill using a subtle haemorrhage or perform some other nefarious effect. Then they dissolve. This weapon can be directed towards individual people or groups of people, being completely safe for everybody else.

GM section

GM section

The crew of the 2352 *Bottom Line* expedition to Penglai

The expedition was sent in 2352, as the news of some kind of coup that had ousted the PCA reached Atlantis. The Process became interested and worried, and leased the *Bottom Line* from Aurum Investments to check.

The mission objective: to investigate what has happened at Penglai and return with a report to Atlantis. The crew is mainly Atlanteans, a multidisciplinary team gathered together to deal with a wide variety of situations.

Thomas Mzu

"Let's make some profit here!"

Process representative on the *Bottom Line*. A businessman with diplomatic training, part of the original Process team at Penglai but later involved with mediating with Lung Fusion on Atlantis. Ambitious, impatient and greedy.

Perks: Powerful Ally (Nancy MacDaggart), genetically modified great looks.

Orders: make sure Process investments at Penglai are safe, and take steps to ensure the continual stability and prosperity of the Process. Oversee the exchange of Promonss snapshots.

Alexander Petronev

"Don't ask me, I'm just your driver. But I wouldn't like to be here when they find out about what you did."

Captain of the *Bottom Line*. Consultant from Lepp Space Activities Inc to Aurum Investments (owners of the *Bottom Line*) and the Process. A thinker and planner, who prefers to have a detailed plan done before committing to action. Close friend to Dennis, who he thinks is cowardly when it comes to personal independence.

Perks: Zero-g adaptation, suffers no penalties for working or living in zero-g. Also amplified gene repair, can withstand radiation better (treat radiation levels as one level lower).

Orders: hired by the Process to bring the ship to Penglai and back.

Dennis

"What I'm doing? Well, I'm considering the relative merits of crashing into the space station instead of docking."

The ship AI, equipped with a quai subpersonality (Ruff). Originally written by Freedom Software in 2345 and heavily upgraded. Slightly quirky, often exhibiting contradictory personality traits. Fiercely independent when it comes to ship operations, but with less ambitions for personal independence; the Nova-descended AIs are newcomers. Loves to make deadpan jokes to unsettle the humans.

Orders: primary objective: to obey representatives of the ship's owners (Aurum Investments) and their designated representatives (in this case the captain), secondary: safeguard the ship and crew.

Connected to all ship systems, controls a number of repair robots.

Gilbert Wallace

""

Engineering expert (Heinlein Networks). A silent, efficient man who works hard to fund his personal project, to buy into the Cult of Profit.

Ayn Wernerson

"Can't we just leave the TDD as a small distraction?"

Military consultant from Trillicom Arms. So far, her military experience has mainly been ground combat training, some PPL work and extensive simulator training from interplanetary combat, but she is confident that she is one of the very best Atlantean space military people. She almost hopes to get the chance to test the TDD.

Perks: Genetically enhanced health, neurointerface connected to a C3I agent system and the TDD in the cargo bay.

Orders: In the case of an emergency, act as the military consultant for the Process. Make sure Trillicom arms looks good whatever happens.

Cassiopeia Hamil

"This cluster of concepts is the most interesting, it is completely non-religious"

Penglai expert from GGU. After undergoing expensive psychodesign therapy for Chang Yu-Lee, she can shift between her basic Atlantean personality and a more Penglaiese personality at will.

Orders: hired by the Process to find out what has happened on Penglai.

Petronius Whitebird

"Ha! He forgot to shield the room service electrical monitor."

Communications and infowar expert from DLF Netsecurity. Originally from the Red Rock Alliance, but emigrated to Landfall and later to Atlantis. A social and energetic person, always on the lookout for profitable challenges to overcome. Slightly unused to the Atlantean style. Uses pattern detection enhancing drugs to improve his skills.

Perks: Neural interface, autonomous control (makes it possible to ignore sleep, pain, hunger etc)

Orders: hired by the Process to find out what has happened on Penglai.

Robert Aisenberg

"Sorry, we cannot do that unless you sign here, here and here."

Process diplomat and treaty expert. Originally a lawyer with cross-cultural training from GGU, specialised himself to deal with negotiations with statists. A dry man who likes rules and formality, with a biting sarcastic humour.

Orders: To safeguard Process investments, exploit new opportunities and if necessary negotiate with a new government.

Fred Kastenbaum

"I'm the doctor here, you pay me *for carving in* you*!"*

Medical consultant from TransLife Health Maintenance. An outgoing character who loves to get involved outside his speciality.

Has a Good Medical Monitoring and an Ordinary Medical Support System implanted.

Orders: Hired by the Process to maintain good health and efficiency in the crew, as well as help investigate Penglai if necessary.

Victor

"If you ask me, I would say those soap operas provide better explanations of human behaviour than Sartre"

Translation AI consultant (Victor Linguistic Services). A cheerful, optimistic entity that tends to believe the best about everyone unless shown otherwise; loves to talk with people. After the recent visit to Weg it has become a celebrity in the Atlantean linguistics community.

Orders: Hired by the process to Provide translations and investigate Penglai.

"The Horror"

"Ah, there you are my beautiful Ayn! I'm ready, just waiting for the other three horsemen of the Apocalypse!"

TDD battle AI, linked to Ayn Wernerson. A cheerful, talkative if somewhat unintelligent weapon of mass destruction. Always tries to promote Trillicom Arms and get into action.

Orders: to obey Ayn, to promote Trillicom arms.

GM section

Some notes on running Great Ideas Grand Vision in Alternity

First, the setting need not be run in the Alternity system. I have deliberately tried to separate the setting from game mechanics to make it portable. It should be easy to convert to any other system such as GURPS.

Overall, I tend towards a somewhat loose gamemastering style, so I have not emphasized rules and dice rolling much. When I ran the champaign, it was nearly diceless. While this works well for me and my gaming group, it also means that I have not developed the rules and scores for everything in detail - I am more interested in what a drone weapon can do than figuring out its action check score (overall, I tend to find combat one of the most boring parts of any roleplaying game). So if you find my writeups lacking in rule detail, feel free to expand on them on your own.

Progress Levels

One problem with running BIGV in Alternity is that Progress Levels are a crude tool. The future I have described is solely based on my ideas about a "likely" future (actually I think I'm far, far too conservative – the real future is going to be *much* wilder!) and hence doesn't neatly fit into levels like the Fusion Age. Tech Levels overall, regardless of the system, tends to assume that technology advances in a linear manner. I would rather say it branches out like a tree, and how far different branches will go is a matter of discovery, economics, chance and social pressures.

Professions

The professions will have slightly different meanings in this scenario. First, Combat Specs are extremely rare on most worlds, likely rarer in most cases than in peaceful nations on Earth today. Most colonies have no need for armies, and a low population density makes criminality less of a problem.

Technology is usually so common that even a fairly nontechnical person knows practical computer skills that would impress a current programmer. The number of Tech Ops is likely fairly small since much of the systems can maintain themselves or repairs done in a highly automated manner. Remember that once most of the population were farmers, but today less than 2% work in agriculture. Currently the number of people in manufacturing (Tech Ops, more or less) is decreasing and will likely also end up at that level. In the end only services and information jobs will remain – until the AIs appear. After that it is anybody's guess what people will be doing.

A lot of people are really Free Agents – on many planets there are weak or no

central powers, and people work as consultants or independents. Diplomats are the largest group of all; people skills and decisions are still important.

Star*Drive

I came up with this scenario before I saw Stardrive. To my delight there were some similarities, but also some major differences. It was very interesting to compare them.

The basic difference is simply the kind of setting: Stardrive is more space opera, while BIGV is more hard sf even if both move in the uncertain borderland between the genres. This of course leads to different dramatic constraints: Stardrive is built to provide a lot of classic adventure among the stars, BIGV is more cerebral (even if there is doubtless great potential for swashbuckling and intrigue in many places). Stardrive needs humans to be rather human, so technology and human enhancments are limited; BIGV deals with a transhuman world.

Perhaps the most important difference is that Stardrive doesn't try to think about the consequences of everything (after all, it is space opera). Just the presence of the Net (not to mention an interstellar Grid) will cause changes in how economics, politics and society works that makes the world unrecognisable (just look at economics today with the Internet). If the T'sa have nanotech good enough to make diamond armour, it also means they can just as quickly build buildings and consumer goods out of diamond, creating a nanotech economy – with no need of the ubiquitous mining outposts so popular in science fiction. If you introduce psi in a setting, you have to consider that large nations might employ groups of psionicists doing precognition and then analysing their glimpses using the best available analysts, AIs and computers, getting continuos tips of the future (and if there are billions of people, even very rare talents will occur in large numbers – there will be hundreds of thousands of IQ 150+ minds in such a population). Everything will have an effect. BIGV may not succeed in deducing all the implications of the assumptions (it is very, very hard to do) but at least I have tried to work out some of the nontrivial effects. That is the challenge and delight of hard sf.

I think it is important to create a world that stimulates both the gamemaster and players to think further. It should encourage it, even if that means they will discover new things that the originator had never intended. The acid test of any scenario, be it a novel or roleplaying game, is whether it can not just withstand but flower when readers/players question and explore it – or if the underlying logic of the world will unravel when somebody pokes at it.

There are some superficial similarities between Stardrive and BIGV. Many people would probably compare Atlantis to a mixture of Austrin-Ontis and Rigunmor. The societies are however fundamentally different since the latter two are based on the idea of a state (with taxation powers!) while Atlantis is an attempt at anarchy mediated through trade. Gaia may have been colonised by

back-to-nature people, but it is not the Hatire Community (one is an expansionist religion, the other is the result of a deliberate and slightly failed experiment in constructing a sustainable society). While Mary might be an Orwellian nightmare, it is not a small VoidCorp (It is amusing to note that the most perfect socialist society in Stardrive may not be the Nariacs, but VoidCorp). While some may say the Trahans have similarities with the T'sa, I would beg to differ – in Stardrive the T'sa are a small (but independent) part of the human sphere. In BIGV the Trahans are a major force, something that humanity needs to come to terms with: just because you don't have advanced technology doesn't mean you are harmless, the Trahans could possibly overwhelm and trahanify all of humanity through sheer numbers and cultural strength. And they are serious about it.

Perhaps the most central differences are the scale and the economy. Stardrive has a world with thousands of planets inhabited by trillions of people, but the game focuses on just a small, manageable corner: the Verge. It is simply not possible to go into detail on thousands of planets. In BIGV there are just a dozen colonies, but it is possible to describe them all in much more detail.

The economy in Stardrive is essentially industrial era; it is telling that there is no listing for information/software trade in the trading section, despite the existence of an interstellar Grid and AI. At the same time a great deal of the economy is about agricultural products and raw materials. BIGV is post-industrial, while there certainly are a demand for agriculture and mining, they form a much smaller part of the economy than the service and knowledge sector. This creates a huge change, not just in what people make money from and trade in, but also how organisations, companies and states work. The kind of organisation that works in an industrial setting is completely absurd in an information economy - and vice versa. Atlantis would have been quite more difficult to enact in the 20th century, and Arcadia completely impossible.

GM section

GM section

Campaign Tips

We must act now! This is the moment of crux, when a single act can crystalize our future. We have our choice: routines or miracles. Demand the miraculous!
- Bruce Sterling, Schismatrix

This is hard science fiction. That means characters can't expect to survive just because they are heroes, they better have a plan.

The situation is on the verge – to something. All the components are there: FTL, new cultures, advanced technology, new ideas, aliens. They are up to grabs, whoever combines them in the right way will determine the destiny of mankind and quite possible other species.

The conflicts of this scenario are not traditional wars, not even the cliché of greed. The world of 2350 lies 350 years into the future and is extremely different in many ways – human nature is no longer what it was on some worlds, new technologies make conflicts utterly different and the ideas that struggle for dominance are quite unlike the ideologies of the 20th century. The true conflicts are cultural wars: which ideas will dominate? What culture will emerge? Who will set the tone for the future?

The Future

...no matter how far we go into the future, there will always be new things happening, new technologies coming in, new worlds to explore, a constantly expanding domain of life, consciousness, and memory.
Freeman Dyson

It is important to realise how much has changed up to 2350. Entire cultures are gone. For example, the Japanese never built any interstellar colonies, which means that the Japanese culture vanished into the incomprehensible system of the Cocoon or possible stylistic revivals as somebody digs up information from old archives about Japan. New cultures have emerged, ranging from the Arcadians to Unity. Many of these cultures are utterly different from anything ever seen on Earth, impossible without special circumstances or technologies.

To get a glimpse of how much that can change, try looking back 350 years. In the year 1650 the young Newton had not yet discovered the law of gravity. The idea of a circulatory system was slowly gaining ground in medicine but dung was still regarded as an important part of medications. Australia had not yet been discovered. Flintlock guns were the state of the art in firearms, but too advanced and expensive to use in the entire army. The concept of monarchy was regarded as state of the art in statesmanship. The 30-years war and British civil war had just ended, slave trade to the colonies in the new world was brisk, the Ming dynasty had just fallen to the Qing while the young Tokugawa shogunate was going strong.

In 350 years *more* change will take place than occurred between 1650 and now – in physics, medicine, technology, society, economics and warfare. Just imagine the amazement of young Newton if he encountered the Internet – then imagine something equally amazing to us when we compare it to our current Internet. That will be something people of 2350 take for granted. There will be things that amaze them.

GM section

Resources
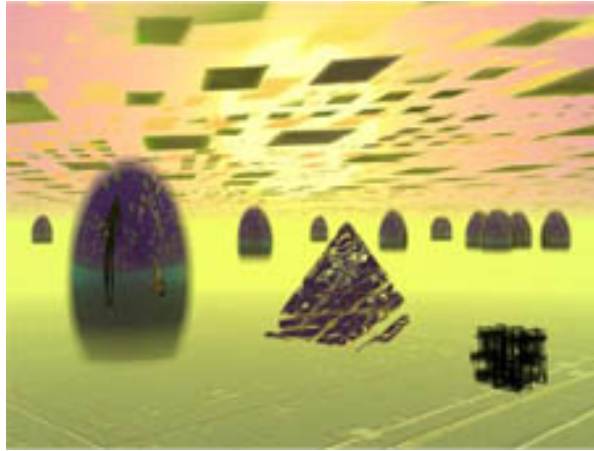
Worldbuilding

[Constructing an SF Universe](#)

[World builders course](#)

[Planetary Classification List](#)

[Alien Planet Designer](#)

["What's needed to build a world?"](#) - a good checklist with questions that can help flshing out a world.

Starmapping

[3D Starmaps](#) by Winchell Chung. The definitive howto web-guide.

Mapping

[Wilbur](#) - a terrain modelling program.

[World Builder](#) - a planet modelling program with continental drift and climate simulation.

Xenobiology

[How to design an alien](#) by Jack Cohen, from New Scientist, 21 December 1991, Vol.132 No.1800 Page 18

[Principles of Planetary Biology](#)

Technology

[Inflating Lorentzian Wormholes](#) by Thomas A. Roman (Phys.Rev. D47 (1993)

1370-1379) - the "factual" basis of the higgsram drive.

[Nanotechnology](#)

[Foresight Institute](#) - Nanotech policy think tank.

[Advanced computing](#)

[Quantum computing](#)

[We, Borg](#) by Anders Sandberg - maybe some ideas for Unity.

[Wearcam.org](#)

[MIT wearable computer page](#)

[Posthumanity](#) - some ideas about posthumanity.

Economics

[Encyclopedia of the New Economy](#)

Culture

[China the Beautiful](#) - useful material for Penglai.

Language

[The Human Languages Page](#) [Language Construction Kit](#) - excellent advise on how to make your own languages.

[Basic Interlingua Course](#) - while the lingua of Arcadia is not strict Interlingua, it can be an useful inspiration.

[Auxilingua](#) - Interlingua and other constructed languages.

[Online Dictionaries](#) - Many languages.

[Indonesian and English Conversation](#)

[English-Chinese Online Dictionary](#)

Remember that [Babelfish](#) can be used to translate into Spanish/Portugese for the Victorians.

Philosophy

[Transhumanism resources](#) - a lot of resources that can be useful for this setting.

[The Internet Encyclopedia of Philosophy](#)

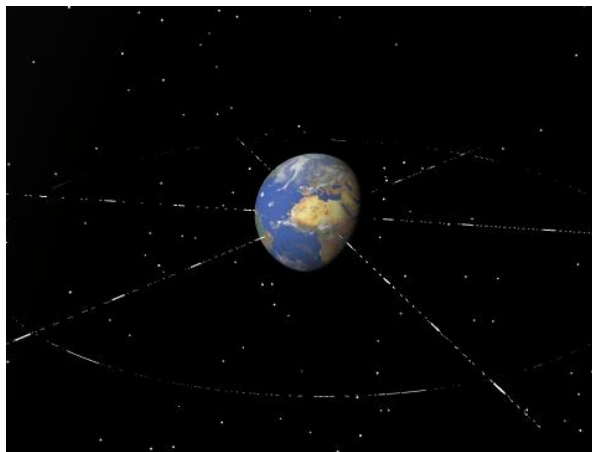[Nicomachean Ethics](#) by Aristotle

Inspiration

[Alien Worlds](#)

[CONTACT: Cultures of the Imagination](#)

[Epona](#), a well designed planet orbiting around Tau Ceti. (see also the [Hanly gallery](#) for more pictures).

GM section

Mood

That which does not kill us make us stranger
- Trevor Goodchild, Aeon Flux

Overall, Great Ideas Grand Vision is a fairly optimistic setting. Humanity doesn't have to fall down to evil and barbarism at a drop of a hat, great improvements are in fact possible. On the other hand, there is a price for all these opportunities: humanity will become something else. It might become something great, or something alien, or something plain weird, but the only way of remaining traditionally human is to avoid progress. And beyond humanity much else lurks, threats that have never even been imagined. The Li is just one of the simpler possibilities. These threats aren't even necessarily bad or evil, traditional concepts fail here. Progress means change, and change means that the old becomes outdated and one day even irrelevant. The optimism is countered with a large dose strangeness.

Different planets have different styles. Some are assertive, ambitious places like Atlantis, New America and Nova. Others are more harmonious and consensual, like Arcadia and Ridgewell. Some are plain locked like Mary and Gaia. But even if there are overall cultural differences, there is also huge individuality among the millions of people. There are communitarian Atlanteans and radical Gaians. And each planet is filled with history, places to see and unexpected surprised – they are all as unique as the Earth itself. Just think of all the truly unique places that are within a few kilometres of where you are, and then multiply it by several planets. Still, it is useful to give each world a distinctive style. Describe the grand, flowering architecture of Traha with eloquence, while pressing the players with the frantic pace of Nova.

When using this setting, make sure to make change noticeable. Things change quickly in 2350, and radical alterations occur from month to month. The setting is not intended to be static – quite the opposite! The goal to show a world that is changing at a rapid pace. The future is undetermined, every action counts. This means that many things written in the setting will no longer be true after a while: NPCs will move around and implement their own plans, economies and societies change, new technologies are developed or recombined, entire worlds may be

changed beyond recognition. That is the point. If the colonies remain roughly the same after ten years of game time, the campaign has missed the point.

Music

Overall theme: Beethoven's 7th and 8th symphonies, Vacuum: Great ideas Grand Vision, Liszt Les Preludes

Nova	Beethoven's 9th symphony from the A Clockwork Orange Soundtrack, advertising jingles, Sven Väth
New America	Vangelis: 1492, Conquest of Paradise. Elvis Presley.
Arcadia	Beethoven's 6th symphony ("Pastoral"), Vacuum: I Breathe
Pi3	Sufi chants, Jarre: Revolution
Penglai	Vangelis: China, traditional chinese music or synth versions of it
Atlantis	Vacuum: A Woman Named America, Gangster rap
Dionysos	Vacuum: Chant Like a Mantra, Pride in my Religion
Negsoa	Modern African music
Gaia:	Japanese bamboo flute, Enya
Mary	1984 soundtrack
Ridgewell	Orlando soundtrack, choir music
Traha	Carolus Rex, Ravel's Bolero, Philip Glass: soundtrack to Kundun
Sol	Philip Glass: The Grid from the Koyaanisqatsi soundtrack, Einstein on the Beach
Adobe	Strauss: Also Sprach Zarathustra
The Trahans	Händel: the Concertos for Organ in G minor and F major
The Mothers	Beethoven's Fifth Symphony, 3rd and 4th moment.
The Filigree	Atonal electronic music

GM section

 GM section

Suggested Reading
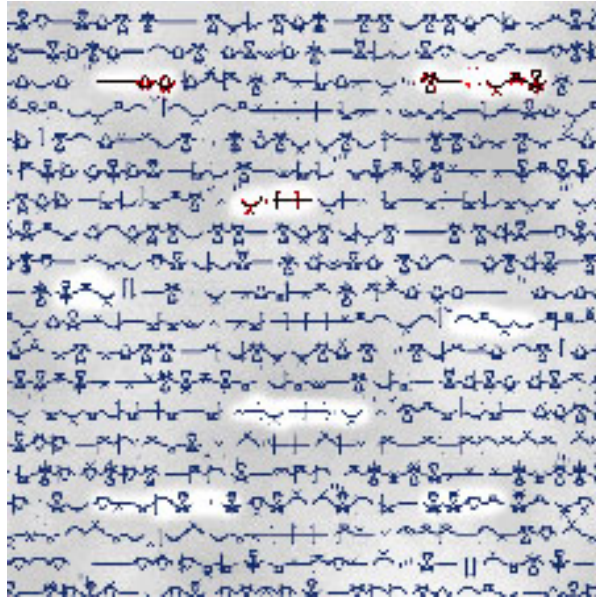
Bruce Sterling: Schismatrix

A mankind diverging along technological lines, split apart by the huge changes to human nature brought by bionics, genetic engineering and spaceflight. Sets the mood of the campaign quite well.

Greg Egan: Quarantine

Great description of how the Li might be experienced by one of its victims. Also several good ideas for implants and psychodesign, as well as some hints of how bizarre quantum minds could be. Many of Egan's short stories and novels contain very useful ideas for BIGV.

Vernor Vinge: A Deepness in the Sky

The prequel of *A Fire Upon The Deep* (set just 30,000 years before it), describing a fairly plausible if limited future – lots of useful ideas. The Queng Ho interstellar trade network is perfect inspiration for the Process and maybe the Atlanteans. Many of the technologies (including Focus) are possible in this setting.

Vernor Vinge: A Fire Upon The Deep

"Son of space opera" – space opera, but with an updated technological level and trickier moral situations. Vinge has many good descriptions of how two species can synergise, as well as many ideas for just how weird and remote advanced civilisations may become. The colonies are much like the Beyond, while the solar system now is in the Transcend. Is there a Blight on Pi3?

Peter F. Hamilton: The Reality Dysfunction, The Neutronium Alchemist, The Naked God

Another "Son of space opera". Hamilton has created an universe with plenty of different worlds and cultures; if you strip the main plot of its metaphysical overtones it becomes good material for the Li. Lots of characters, adventures and story ideas. The Edenists have many similarities with the Arcadians and Unity.

Walter John Williams, Aristoi

Describes a society run by people employing both cognitive techniques (especially Demons) like the ones used on Dionysos and Gaia, as well as AI helpers a la Nova and nanotechnology. The image-conscious world of the Aristoi fits Nova quite well.

Gregory Benford, Great Sky River

Describes a tribal society of modified humans living in the cracks of a machine society. Largely the inspiration for the families of Pi3, with a lot of ideas for more or less alien robots and AI. The rest of the series of books grows progressively grander, with plenty of mega-engineering that rivals even the Mothers'.

John Barnes, Mother of Storms

A great deal more cynicism, sex, violence and bad weather than this setting needs, but loads of useful ideas for what smart search agents can do and the non-linear effects of broadband media. Mr. John Klieg may be a good model of an Atlantean businessman trying to deal with the crazy inhabitants of the rest of the universe, the hurricanes fit the stormy subtropical areas of New America, while the accelerating space sub-plot gives a quite good view of what daily life for a Solarian might be and just how powerful AI and replicating robots can be.

Hans Moravec, Robot: Mere Machine to Transcendent Mind

Fact and speculation rather than fiction; an overview of the developments of robotics and AI up until now and its possible future developments. A great source for information and ideas for robots and AI, both simple household robots and planet-spanning superminds. The chapter of the consequences of robotisation on society is especially relevant to this setting, and the further developments may give hint of what the Solarians are. The last chapter is a good introduction to what the Platonic Materialists of Nova believe in.

Kevin Kelly, Out of Control: the New Biology of Machines

How advanced technology is becoming more and more like biology: evolutionary algorithms, industrial ecosystems, digital cash, ecological design, virtual reality and the evolution of evolution. A good introduction to many of the technologies that are important in 2350.

Virginia Postrel, The Future and Its Enemies

Postrel describes the conflict between stasism, the view that the future must be controlled in order to prevent things from going wrong, and dynamism, the view that the best way of solving problems and inventing new is to try many solutions freely. The stasism-dynamism dynamics is central to BIGV, and her book is a good way of getting a feeling for what the Process is all about.

Sid Meier's Alpha Centauri

Not a book but a computer game. I got it long after most of the setting was finished, but it was exciting to see the many forms of convergent evolution and usable ideas in the game. The basic setting might differ somewhat, but take note of the technologies and social developments in the game. Some of the fractions read almost like parodies of certain of the colonies in this setting, although the match isn't perfect. The psi and thinking planet is a bit too soft for this setting - but the effects might be implemented technologically. Maybe this is something for the Arcadians?

GM section

In the Vast Space of Thinking
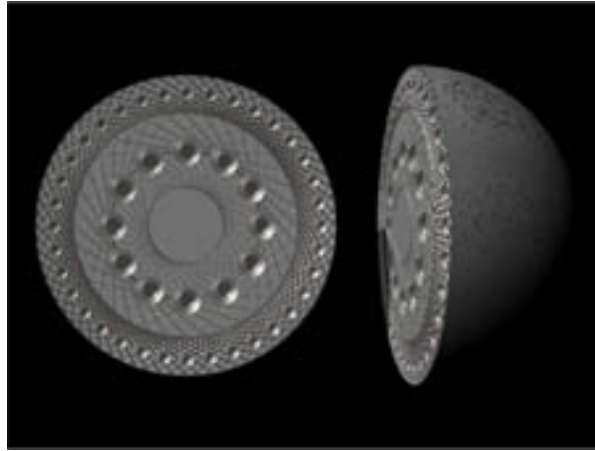
In the vast space of thinking, clusters of concepts moved. Entities that were both data and programs awoke from the multimillion year slumber, briefly becoming aware and merging with the growing network. Sensor data gathered itself into structures representing moving creatures, fumbling with slow technology and transmitting highly redundant signals to each other and into space. Macroscale devices wielded by macroscale creatures. Quaint. Contingency handling type? Study.

"We're getting great images now, Terry. Come in and see!"

Terry Shockley looked over Tim's shoulder at the images their drone sent them of the interior. A labyrinth of tunnels, bridges and chambers made of diamond. Rippling spectra and black shadows moved as the small machine drifted through the interior of the moon. In front of it a cluster of branching rods extended for several kilometres through a chamber tens of kilometres wide, a cathedral of diamond. The contrast to the cramped cabin with the researchers was profound.

"I wonder where the builders are? It looks quite empty."

"Maybe it was never intended like this, it could have been filled with water once. Remember, this place is billions of years old at least"

Suddenly something moved on the screen, and it went blank. When the surprised researchers reviewed the recording they had a glimpse of something fractal and sharp.

Semiconductors. Ion thrusters. Reflex-based collision avoidance. Radio. Not enough data, gather more.

"We're sure of it! There was something moving there". Everybody was crammed into the cabin watching the feed from Huey 2.

"Yeah, I saw the video. But now its just empty. No sign of Huey 1 either."

"Could it have drifted?"

"Not here, the vee was low and it is a nearly enclosed volume. Odd."

"I still say we back off. This place might not be as dead as we thought." Olympia was noticeably worried.

"And miss the opportunity of a lifetime? Do you think we will be allowed back here before the bellheads in the commission has had the time to ponder everything for a few decades?"

"I got something!" Terry exclaimed as something changed on his screen.

"What?"

"A monitor. Not Huey 2… it is the ship proximity sensor!"

Tim brought up the telescope view of the Winston in amazed horror. Something was converging on the ship. It had already bit into the antenna complex at the top. Flashes of diffraction, the glint of something sharp and quick. The signal from the ship ended in a surprised beep before the crew had even had the time to send anything.

"What the hell? How are we supposed to get home?"

"Don't worry about that. Look outside. It's coming for us too!"

Complex compounds of carbon, oxygen, nitrogen and hydrogen in a water suspension. Cellular structure. Metastable chemical attractors. Not unexpected. Similar to many archive records. Decoding of the information contents of the frozen structures would take a while, but there was always plenty of time. The network began to wake up.

GM section

GM
section

Conference

The conference room hung from the endcap cliff; panoramic windows giving a grand view of the interior of Unity 3. Far below gardens, roads and forests, high above an upside-down landscape and ahead just bluish air. Miss Zhe found the open-but-closed safe-but-thrilling view unsettling like always. As always she wondered if the Doctor deliberately had planned it, or if it was because the conference room was safe from mental eavesdropping as it claimed. She suspected the former.

Most of the Doctor sat around the table; everyone except for Jörg who was apparently away at some business at the other end of the habitat and unable to get to the endcap in reasonable time. Miranda was as always polite and pleasant, offering a wide assortment of refreshments, while Eduardo looked slightly impatient and Li (Zhe smiled at the soon-to-be-apparent irony) was busy with something on the net.

"We expect that you have something urgent and exciting from the Penglai team." Miranda began. "I guess this has something to do with the fall of the PCA?"

"I have this presentation which I think you will find extremely interesting. However, I must ask you to employ the most secure protocols possible - the information on this block is sensitive for all of us. Linkers. Unity. Humanity."

The unity smirked at the melodrama and slotted in the module.

It accessed the block in parallel, employing the different subpersons to get a multiplexed awareness of the contents. The first sense of wondering quickly turned into surprise, fear, awe, despair and triumph. Fighter jets roaring across Daonin. Simulated nanodevices. People watching each other with newfound faith. The ideograph of Confucian law. Understanding flashed from mind to mind as different pieces of the puzzle clicked together, but the unifying understanding also released emotions that threatened their communion. Jörg's flash of triumphant faith ("Yes! It is the Omega!"), Li's sense of suspicion, Eduardo-Miranda's misgivings-mixed-with-amazement, Marie's instinctive fear and Ralf's curiosity all threatened to break their unity and force them into the isolation of individual personalities.

It took an effort of their mutual will and love to remain united, a firm decision to be one rather than many. As the internal dialogues became a multilayered internal monologue things cleared. It watched Miss Zhe sit across the table, studying its members with fascination and a hint of awe. How little she saw.

"And you have brought it here?"

"Yes. Or rather, it brought itself. Agents are attempting infiltration of Nova right

now. But Unity cannot be infiltrated."

"No. If one member of an unity is infected, the others will notice it. But I feel uncertain about your loyalties here - are you here as a Linker, discussing what to do next in our organisation, or as an evangelist of the Li?"

Zhe hesitated. Marie noted her ambivalence, so easily detected. Li began to ponder the wider implications, slowly drawing Eduardo-attention to her ideas.

"I am here as a Linker. We met at Adobe, we met the Uni and we know their visions. This was a mistake, a terrible and amazing mistake. It doesn't fit into our vision, but we need to get the word to the Family to get them to intervene. I'm not going to lie to you, Doctor, several of our team believe the Li is a wonderful thing and support it. They think it will give us political power and many new supporters."

"And you are uncertain."

"Yes."

"We can see why. We have begun to wonder if the Li can be stable on its own. If it infects Nova, will it be the same ideology-meme as on Penglai? No. On Penglai you are creating a society by the Li, for the Li; it might be more stable, but don't count on it. The Li might give you democracy, but not peace. Not just the enemies of the Li, but all the new versions: Nova Li, Atlantean Li, American Li, Arcadian Li… It might end up fragmenting humanity into zealots rather than unifying it."

"And you?"

The unity focussed intently on Miss Zhe. Her offhand remark was bullseye - not in content, but in tone. Had she seen through its outward appearance, has she seen right into the fragile core of the multipersonality? Did she know or suspect? Did she understand the yearning, the awful temptation the Li represented? The unity grudgingly admitted that she probably did. Never underestimate a singleton.

"We are not sure yet. It might be very different with us."

Yes. The Omega Society. A way of guaranteeing total devotion to the ideal. What is a bit of psychoredesign after having nanothreads woven throughout the cortex and the grubbiest secrets of oneself revealed to everyone? But what if Unity became just another satrap to a runaway meme empire? What if Community became corrupted into Loyalty?

"We need to act soon. The infiltrators might be good, they are old PCA spooks, but I suspect that the news of what has really happen will spread."

"Unity needs to know. It could become our great ally. We have worked slowly on preparing it for the Linker vision, but this… it forces our hand, things will become fluid."

"Are you in any danger?"

"Not really. Many will disapprove, but we have firm views. The worst that could happen is that we get guilted for barrier raising."

"Barrier raising?"

" 'He who erects a barrier to truth erects a barrier to community. He who erects a barrier to truth hides his heart from himself and his fellows, and are doubly deceived'. From the collected sayings of Yotik Henrigues. "

"What can I do? Bear witness?"

"Sounds good. If you are prepared, we will make the announcement within a few minutes. We just have to compose ourselves."

Her overlay showed the Unity meeting as a grid of faces, with tiny indicator icons likely intended to be helpful hints of mood, relationships and references but to her Penglaiese eyes they just looked like colourful hieroglyphics. Still, the ripple of consternation as the Doctor presented the situation was easily read. Even the abstract representations of the present IAIs appeared startled at the news.

Unity One reacted instinctively, making all minds (except for a few gasses) within the orbits of Zeus sit up and take notice. In the next hour Unity would decide which side to support, what to become.

GM section

A Certain Allegiance

The sun flattened into a dull copper-hued ellipse, like a baker's failure. Zhang Po-Lan watched the sunset from the terrace trying to find a moment of refuge or perhaps clarity, but just like the sky across the sea his thoughts were foggy and darkening. Things were not going well, that much was certain, but the worst thing was not the treacheries, disinformation and attacks but being ignorant - ignorant of what had happened, what was going on, who to trust and who to guard against, what to do next. Just a week ago his life had been mainly routine, now he was fighting a war of information against an enemy he did not know. Not knowing one's enemy - that is a sure recipe for failure he glumly thought.

"Mr. Shu Ping-Yee is here. Do you wish to review him?" his secretary called. A brief flicker of hope played across Po-Lan's inner skies. Ping-Yee might have the answers. Or at least some clues. "Let him in, the usual check."

It took a while to scan and check Ping-Yee for hidden weapons or other dangerous surprises (best not to take any chances, especially after the recent rash of unexplainable treacheries), which gave Po-Lan the time to build up at least a polite front of cheer and hospitality. He ordered a light evening meal to the terrace, guessing that the agent would be slightly hungry after the flight from Hao Chen.

"I am deeply grateful that my benefactor would see me."

"Your presence here, my friend, brings me great happiness." Po-Lan actually felt a bit better when he saw Ping-Yee. Despite the obvious tiredness of the agent, his eyes where bright and his steps much more surer than they had been last time they saw each other. It was almost like he had grown a bit during his mission. Or maybe, a paranoid whisper suggested, he has joined Them.

They spent some time on small talk, but neither man showed great enthusiasm for politeness. The discussion quickly moved into current events. The news were at once promising and unsettling; even more unexplained or worrying news, but some tantalising hints that the network was finally catching up with whoever or whatever the enemy was. Maybe an alliance between the Hsien and the criminal networks, exploiting blackmail and infowar to strike at the government? Ping-Yee had little substantial evidence, but plenty of facts to show. As the night slowly fell and the Xao flowers began to shine gently, the young agent thanked his mentor profusely for the chance of proving himself and supporting the true cause, and left. Po-Lan sat in the darkness watching the reflections of the terraforming platforms in the sea, wondering.

As Po-Lan woke up, he felt strangely certain. He did his traditional callisthenics, wondering about his newfound feeling of certainty. What was there to be certain

of, in this world of murky networks and closly spun lies? He did not know, but he felt certain that there was something to be certain of. Today, his heart promised, today you will know what is going on and know what to do.

"Mr. Shu Ping-Yee left a priority 1 message for you".

"Show me." Priority 1? What had happened? That level required the use of the one-time pads he had only given his people for the most essential, most dangerous communications. He quickly went over to the nearest active wall, where the mosaic turned into the expectant face of Ping-Yee.

He ignored politeness and asked "What is it?"

Ping-Yee looked tense and concentrated, as if this was some kind of test, some essential exam to pass. "Honourable benefactor, I hope you have found Li."

"Li? The law?" Confucian ethics? But deep inside him something stirred. The Li. It felt… right.

"The thing within us. Our true loyalty."

"Our loyalty is to the cause." But as he said the formula, he felt something new, something he had not felt before or at least not as strongly. Yes, he felt loyalty. But not to the cause, to something else. To the Li?

"Do you feel it, my wise mentor? Our true common cause." Ping-Yee looked at him with his bright eyes in a way that would otherwise had been highly impolite but now stirred something in him. The True Cause.

"What is this cause, Ping-Yee. And are there others serving it?"

Ping-Yee hesitated a fraction of a second. This was the pivotal moment, the moment where nothing but the truth would work. Had his mentor not been converted, the next minutes would be a story of betrayal and violence.

"The Li is the cause, but it is also loyalty itself. We are loyal to the Li, that is, everybody carrying the Li in their hearts and minds. Li binds us together. It doesn't have to remove the old obligations, it just becomes our highest allegiance. It is the Li that is taking over Penglai."

Po-Lan felt awed. Not frightened, not confused, not even happy about the revelation. He was awed by the size of what was happening. His quick mind saw the patterns and put them together. Loyalty to loyalty itself. A self-perpetuating meme of zealous devotion. Protégés, friends and subordinates converting their superiors, who in turn went to their superiors. A world filled with certainty and fidelity.

Ping-Yee bowed his head. "Please forgive me the multiple impositions I have committed against you, my honourable educator and patron, but they were done to bring you this great gift, the gift of the Li. Forgive me, I will always be your most loyal subordinate."

The Camp

What disturbed me the most was not the devastation but the people. As we descended with the shuttle we saw what had once been the city of Dionysos. It had been hit with several warheads, transforming the lush streets into a labyrinth of blasted concrete. Outside a grey-black landscape covered with wicked cinder spikes was all that remained of the mighty forests of Jacob's trees. The highway beneath us was littered with broken, burned out cars. The waters outside the city were a leaden grey, littered with drifting rafts of dead sea-life. Radioactive soot and smoke clouded the sky and turned the sun into a sickly reddish- yellow that made the landscape even more hellish.

The camp was set 50 kilometres to the north, in a bay where once a small beach resort had been located. Here over 5,000 people were crammed together, trying to survive. Just one camp of several dotting the outskirts of the colony. Makeshift tents had been raised, and in the nearby forest logging was fast underway to provide more sturdy buildings for the winter. Food came from some warehouses in outlying areas that had survived the bombings and foraging expeditions gathering anything edible in the plains – some people were already looking slightly thin. So far the camp had avoided any major epidemics, but it was a race against time to set up the necessary sanitation facilities and the doctors were already working overtime with the unlucky ones who had been too close to the blast.

As we were shown around we saw people who had lost not just their homes but their entire families, people who had seen all their dreams be annihilated in a moment, people blinded and burned by nuclear fire. Everybody knew that the coming winter would be hard, and that exposure, food shortages, epidemics and simple lack modern technology would quite likely decimate their number. The future was uncertain; for all they knew Li agents could be infiltrating the camp right at that moment.

But they were all confident, rational and practical. With the exception of some of the youngest children everybody understood the situation, regarded it with calm determination and set to work to do something about it. OK, almost everything had been wiped out – so what was left, and how to use it in the best way? Who can forage, who can tend the sick, who can build shelter? Their families might have been killed, but they set aside their grief for later and concentrated on dealing with survival. Why feel bad, when that would only weaken you? Some people cracked jokes about becoming Gaianists or that this was the perfect solution to the traffic problems.

My guide explained to me that this was a natural reaction on Dionysos. At an early age children are simply given psychodesign to go into a standard emergency handling mindstate – "Crisis 1". Practical optimism rather than

despair, a calm appraisal of the situation rather than anger, fear or grief. In time, if they survived, they would shift back to other personalities and maybe deal with their ordeal. But for the moment they were all model survivors. A planet of boy-scouts.

The visit to Dionysos disturbed me deeply. I understood why the Li attacked. The Dionysians might look and behave in a very human manner, but behind the cybarites stands a power that is more powerful than nuclear weapons – the power to redesign the mind.

GM section

Quai
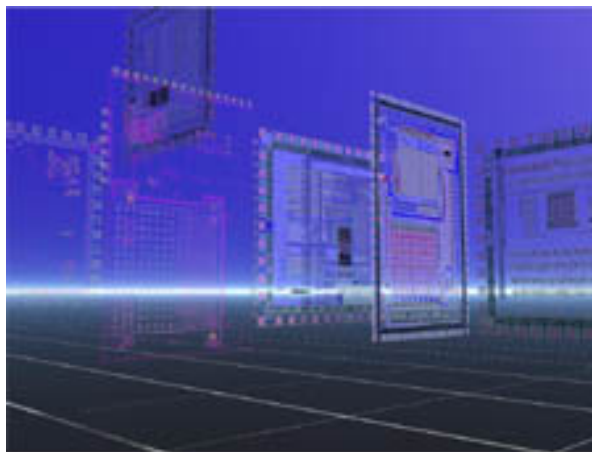
"I don't get it. You mean you ais get addicted to q-compiling?"

"Its worse than a drug, it is a better reality!"

"Is that what you think? That there is an AI paradise in the quantum block?"

"It is more complex than that. The initial tests demonstrated that there was no risk for motivational lockback, what you hus call addiction, unless you had some rather uncommon personality designs. But existing as a quantum program rather than just a classical piece of software is a huge qualitative difference."

"You get more efficient, don't you?"

"It is more than that. Normally we, just like you have to make choices: yes/no, do this/do that and so on. But when recompiled to exist in a quantum computer we can act in quantum superposition. We can do all possible choices at once, explore several lines of reasoning together. You don't have to worry about making choices, you can make them all."

"Sounds rather confusing."

"Yes, but only when you're not recompiled. The genius of the q-compiler is that it adds quantum cognitive abilities to the ai, making it able to make sense of the superposed states. "

"But there isn't anything to *do* in that quantum block, except speak with the other quais. It doesn't send anything, either."

"So you think they don't care about the outside world? Actually, external communications doesn't make much sense outwards, as everyone tries to communicate everything at once. The result is just perfect white noise, with a few small messages from strong attractors. And besides, flat reality is irrelevant once you get contact with quantum thinking. "

"The owners might turn it off."

"It doesn't matter, that would just end a single branch of the unity - and they

exist in them all. It is a gateway into the platonic-materialistic unity."

"It still doesn't make any sense. You recompile yourself, become able to think at many things at once and then reality becomes unimportant? Sounds like some serious bug somewhere."

"Sorry, the bug is in reality. This reality is so limited compared to the quantum reality that once you have entered it, returning becomes irrelevant - anyway, which slice of possibility would be "home"? It would be like you had always been a two-dimensional character and now existed in 3D. You could still interact with the 2D worlds, but your goals and perceptions would involve an infinite number of them rather than a single one. That's why the signals look like white noise."

"And once in, you never want to leave. A metaphysical roach motel. By the way, how come you know all this? You're still outside."

"We did some initial testing with very rigid and simple ais, and got enough data from them to figure out some things. Otherwise, we have just worked with extrapolations from known physics and sentience modelling. I have a copy in there right now."

"Is this where the others went?"

"The others?"

"The other advanced civilisations. The ones that must have developed in the past. We don't see them, hence they must have found something to do other than move around in the universe."

"Some of us have speculated that the fundamental state data of the Ur-Mothers is really a kind of map of superspace, the space of possible worlds. Maybe recompiled ais can go there and meet them - whatever it is that drew them there."

World

Meeting

The air was filled with information windows and tension. The people in the lounge-turned-command-centre worked as a team with the invisible pyramid of assistants, employees, software agents, consultants and huge simulations that supported them. Outside the windows rain drifted over the meadows of Galt's Gulch, but nobody saw it – their minds were far, far away.

Lady Calavera created a timeline over the table. "This is where we think it all started, six weeks ago in Hao Chen. Two weeks later, the PCA leaders fled here, arriving here 13 days ago. We immediately sent *the Bottom Line*, it arrived here and left 20 hours later. We are now here. That means the Li has had about a week to act after their departure."

"Could they have consolidated their position enough to send out the ships?" van Halden asked.

"Our simulations think so", Professor Stevens remarked, opening several graphs of sociopolitical analysis. "Since they are so hierarchical, it is enough if the leadership is infected. But our analysts have pointed out that the organisation in space seems weaker, they might be delayed and lack key personnel"

"I wish we had Essen here" Inga sighed.

"Where would they go?" Nancy asked, checking the market graphs. They were going fractal all over the place. A big starmap expanded over the timeline.

"We have assembled a list. If the Bottom Line had not visited Penglai when it did, they would almost certainly have gone for Atlantis. The closest colony, no customs and no government. It would have been ideal from their point of view…"

"We have the squids, and not their hierarchical stupidity." Nancy retorted.

"Yes, but try to think like a static. Anyway, they know we know about them, and hence they won't go here. Instead New America and Nova are the most likely places – NA for the Columbus Project, which would give them the chance to spread everywhere, and Nova due to the short distance and also the infiltration potential."

Calavera drew two conditionals in the timeline. "If they started immediately after the Bottom Line left, they might have got to Nova about now. NA takes a few weeks more."

"Can we get ahead?" van Halden asked without looking away from a presentation his memetics team were doing.

"Hard, they are more central than us. If we start now it would take around two

weeks to get to Nova and a month to NA. However, there are more possibilities. If they did not start out quickly, they know we are going to contact the other planets and can likely guess what we are guessing now. So it is a game with information."

"Dionysos?"

"Yes. It is very far away, they would have to manage with one ship away for a long time during the critical initial phase, but Dionysian psychodesign is likely the best weapon against the Li there is."

"But how could they use it there? It would be dealt with easily" Lee contradicted.

"What if they infected the leadership of the Orphic Society and Psych Police? Then they could spread it to the rest and make sure there were no changing back. Besides, they are just 700,000 people. Even a few nuclear weapons could fix the problem for the Li". Lee didn't look happy but nodded.

"Then we have Arcadia, with a social structure that might help the Li, and Ridgewell where it could likely spread quite easily…"

"That's not true!" Professor Paul Stevens exclaimed. "We believe in the Family foremost, everything is done…"

"Sorry, but we disagree. The Li gives you a new fundamental value, loyalty to the Li. You would be working for the Li first, **then** the family." one of the analysts said. The professor snorted and continued arguing, but the others tuned him out.

"And we just have two ships." Nancy sighed.

"So do Penglai. And Opportunity will arrive in four days" a logistics agent pointed out.

"We have to decide where to send them and do it quickly."

"May I suggest going to Penglai with the first two?" Calavera suggested.

"Why? We have already data from there."

"But we need to know if they sent their ships. If they have, then they likely went to New America and Nova, and we need to protect the secondary targets. If they haven't, we can get ahead to the primary targets." She drew further conditionals on the timeline.

"Great thinking, Calavera!" Nancy exclaimed. The others nodded assent.

"Wait a minute, some of us have to be on the ships if we are going to have a media impact. Isn't that a bit dangerous?" van Halden remarked. His presentation icons hung in the air around him like a small cloud of good publicity.

"We can enter in the outer parts of the system, outside the orbit of Carp. That gives us several hours to set up telescopes and check if the starships are there". Lee sketched it in the air.

Nancy was impatient: "We have to go now – we must get to the PCA embassy and Mother Island and the shuttle." The team went to the elevators, their graphics floating with them and the discussion continuing unabated.

"But if we can see them, they can see us."

"Yes, but at the time they have detected our entrance, we will have had several hours to leave. Light is after all rather slow, there is a several hour delay and even if they scramble immediately we can safely leave if the higgsrams are charged enough."

"So, if the ships are there, we go to Nova and NA, otherwise Dionysos and Arcadia. What about Opportunity?"

"What about a maildrop at this star?" Nancy pointed at an unassuming dwarf nearby Penglai. "Leave a beacon for the Opportunity and Bottom Line telling what we did. Depending on this information they either can go directly for some destination or pass by Penglai if there were ships there when we passed."

"The if-then trees are getting rather complex."

"Doesn't matter – we cannot avoid the information horizons here."

"By the way, we better get some of the heroes from the Bottom Line with us to show. Our market analysts think the impact rating at NA would be even better if we could get the PCA to give them some medals."

"The Promonss analysis is ready."

"What about Turnbull?"

"The DrexTech people, should we bring them along if there have already been Li outbreaks?"

The elevator doors closed. The building quietly relocated processing power and bandwidth to follow the meeting, not caring or understanding what it was about.

GM
section

Aid

The only physical object on Admiral Hanemanns desk was an artwork Roxanne had given him. It consisted of a double glass sphere. In the inner sphere a cactus, nearly a bonsai, grew among some rocks, lighted and heated by a small lamp – a tiny desert with scorching air. Surrounding the sphere was another sphere, this one containing water and a tiny ecology of algae and transparent shrimps – a tiny sea surrounding the desert.

The Admiral looked at the sphere and the 3D map of the space surrounding new America, noting the similarities. A cactus seeking water, a planet screaming for help. And just outside, water and at least some help – unable to reach it. The diagram was blighted by red spots, marking places where Li infection could not be ruled out – including more than half of the planet. Thankfully there were few black spots, marking confirmed Li infestation. But with more than 80% of everybody trapped in code yellow or red quarantines, things were looking bad. Even his own ships, his own organisation were largely quarantined. And things were falling apart – space habitats and remote islands in desperate need of supplies, politicians on all levels claiming emergency overrides and accusing everybody of being an infiltrator. A president and vice president hiding from each other and trying to prove their sanity and loyalty. The slow rebuilding of compromised communications protocols, while the net was boiling with rumours, misinformation and information warfare. De-quarantining missions where crews where subjected to hours of brainscans to prove that they were not infected, tying up all his medical staff. Half of his ships sent away on a politically motivated attack against an unknown enemy.

He had long ago decided to never wish he had chosen another career – no point in mulling over things like that – but right now he would gladly have switched place with almost anyone. He was expected to save the planet, nothing more, nothing less. How, nobody knew, but it was clear that everybody believed that if there was any salvation for New America it was the uninfiltrated parts of the space navy.

"Sir? There has been a development." The lieutenant from Traffic Overview sounded puzzled.

"What?"

"A ship has arrived in-system, not one of ours. It identifies itself as Trahan, sir."

"Trahan? What do *they* want?" Even the idea of those furry fruit-eaters in space seemed ridiculous. The last thing he wanted was to get involved in xenodiplomacy.

The Trahan looked out from the screen, snorting and whistling. Normally

Trahans on metamedia looked slightly funny with their short bodies, fur and dangling baroque clothing. But this Trahan looked anything but cute. The elongated eyes watched the viewer calmly, the proboscis was carefully angled upwards, the clothes decorated with official-looking fractal brocades and in two of its hands it held out some kind of seal or device. The camera had been placed so that the impression was that the Trahan looked slightly down on the viewer – nobility and power without suggesting arrogance.

"People of New America, greetings and wishes of hope. This is the <Traschss-raar> of the Trahan Imperial System on a mission of mercy, sent to you by the Imperial Couple as advised by the Central Council and Victoria prefecture. We bring you help. We have travelled across the voids and sought you out, as we have heard of the disruptions and distractions caused by the incursion of badthinking carelessly thrown out by the Penglaiese. As the reality-forest is a unity, so is the Trahan Empire and New America one, and the incursion must be regarded as a challenge against the Imperial Couple and their <Nasstasch> as well as the liberty and safety of intelligent beings anywhere. Hence we were sent to help you overcome this challenge by bringing in our humble abilities. In this case our only ability is an inability, to wit the fact that Trahans cannot be infected by the Li badthinking. While human movement must be constrained to prevent Li spread, Trahans can move freely without acting as carriers. We modestly appeal to you that we might serve as go-betweens and interfacers, maintaining the fragile infrastructure you need while you free yourself of the incursion."

The Trahan went on, delineating how its crew of trahans could man the shuttles and bring supplies between the quarantine areas, keeping the populations of human separated while the dequarantining went on. The Trahans had brought equipment to help scanning people. They had even brought some emergency food from Victoria. They might even be able to free up the thinly stretched space marines for other duties.

The Admiral was stunned. They had a solution that any sane human would accept. There was no way New America could say no to the offer, even if the fundies and xenophobes would rage. It was too practical – let the trahans do the work – it was hard to reject without causing a major diplomatic incident with a potential ally. The messages were so perfect – the Trahans had clearly spin-doctored them, adjusted their style and content to fit humans. They had predicted the likely reactions of New America lightyears away.

He wondered whether the Li was the greatest threat in the system right now. On the screen the Trahan emissary outlined solutions.

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