

The World of 2100



*If I were an enzyme, I'd be DNA helicase, so I could unzip your genes.
-- Bad pickup line from geostationary orbit.*

A few of the main differences from 2000:

- Biology is far too fluid to be destiny. Old-fashioned genetic engineering is slow and crude compared to how neogenetic plasmid signals can easily reprogram an entire body. This means that anybody who is in the vicinity of the Dragons (i.e. anywhere on Earth) or someone with neogenetic powers can be hacked... into anything.
- Mankind has split into several subgroups that have good reasons not to meet in person: the "Normals" who have a traditional genome, "Enhanceds" who have modified their genome, "Immune" who possess neogenetic immune systems protecting them from the Dragons, "Hosts" who possess the AM node that enable them to send and receive plasmids, the "Recompiled" who are born from artificially modified DNA incompatible with neogenetics, the "Syntronics" who have external brain tissue or software extending their brains – and endless subgroups.



Figure 1: (Philip Torredano)

- Earth is entering an ice age. Temperatures started dropping early in the century and are now making much of northern Europe and Canada Siberia-like. This has been compounded by the massive ecological shifts.
- Mid-century there was a sharp distinction between the “nationalists” who believe places and stable societies are important, and the “internationalists” who believed in free movement and development. Both sides won, and mutated into something older people find utterly disagreeable.
- The eruption of self-replicating, self-evolving software during the Spamocalypse caused massive damage and ended the era of a single, monoculture Internet. For safety reasons, due to communications lags and different demands there now exist several weakly connected internetworks.
- The spread of self-sufficient, local communities and the limitations of long-range communication has led to an increase in local dialects, cultures and styles, but also an increase of small-scale ethnic violence and a general reduction in economic growth on Earth. Some observers call this deglobalisation.
- The breakup of the unified Net has made journalism flourish again. Almost a lost art in a society of ubiquitous recording, citizen commentary twines and autoblogging it became a necessity when information stopped flowing easily between subnetworks.

- The upheavals mid-century forced a sizeable fraction of mankind to move elsewhere. Entire nations had to flee the cold, political upheaval, the Dragons or oppressive immunities.
- The average lifespan in a developed nation is probably far above 100 – probably, because technology changes so fast that it is unclear what the limits are. On the downside, the number of utterly bizarre illnesses caused by neogenetic infections, accidents in unfamiliar or hostile environments and lethal interactions between incompatible technologies is also high. It is perhaps best to say that the half-life of people is above 100 years.
- The average person in 2100 is about 20 times as wealthy in absolute terms as their counterpart in 2000 – and in the case of the well-off regions, this might be up to a hundred times. However, there are also so many new ways to spend wealth (immunities, bodyhacks, information markets...) and limitations (especially in space) so most people do not feel their wealth.

As societies diverge, they become mutually incomprehensible. The Lunar surface dwellers don't get the orbitals, the lunarside orbitals in the Consensus think they get each other (but when they have to interact closely this illusion falls apart), the isolationists gleefully ignore it, and earthside is just plain weird. Meanwhile the different terrestrial societies find not just the spacers bizarre, but often their neighbours – how can people *exist* like that? Curious people try to understand and bridge, but as the divergence accelerates they have limited effect.

Popular culture



Figure 2: The medicine-man, a popular children's show character in High Vegas teaching youngsters the basic of physiology. (Freeny)

There is little shared popular culture. Most regions have their own styles and arts, borrowing a bit from each other but retaining unique cores.

Official Japanese culture emphasizes nationalism, and hence draws on symbols from many eras of Japanese history – everything from Zen minimalism to 20th century manga robotics. However, people are good at inventing their own styles. On Luna Datematch and Wei he are popular music and software styles.

Datematch is based on elaborate synchronization of movement, both during dance and in deciding when to dance, to go to a club or do anything else – it has been described as a combination of flashcrows and tap-dance. Datematchers let their datematching software plan much of their life, improvising around the suggestions but attempting to keep to the synch. The sudden eruption of a spontaneous (but very controlled) dance across a street, appearance of patterns of elegantly color-coordinated pedestrians or sudden transformation of a social network, that is the essence of Datematch – elegant, surprising, emergent.

Wei he is nature-oriented. Followers of the style often make use of organic or artilife clothing, sport enhancements or tools that enable them to tune into the lunar ecosystems. It has elements of

traditional Japanese animism, old-fashioned green values yet plays with the almost total lack of true nature. Spiritual, conservative and emotional.

In Lunar orbit variants of Datematch are common, especially in the Zega DanceMalls where “spontaneous” outbreaks of dancing are expected. Morphosense is the biotech Grave Bender version in the Geo and Leo orbits, where people synchronize their biotech or nanotech enhancements. High Vegas has produced a fad for “moon metal”, a revival of J-pop heavy metal aesthetics for an internationalist audience (terribly amusing and weird from a Japanese perspective).



Figure 3: Disco Volante woman dressed up for a meeting (Sylvia Ji)

In internationalist orbit elaborate dresses, luminescent jewellery, skin or symbionts, and other forms of extreme clothing are de rigueur at formal meetings. Not wearing smart clothing is downright rebellious.

A few decades back, when space was new and exciting, parents often named their children after stars: Enif, Saiph, Rigel, Sabik, Castor, Mira, Sirius, Sulafat, Naos etc. This went out of fashion, and today only middle aged people have such names.



Figure 4 (Lumigram)

In Europe Bastille music is emerging: based on orbital French music, it is heavily resampled and reinterpreted by clubs across l'Immunity. Rebellious youth listen to GEO sync, pro-enhancement internationalist music questioning the immunities and calling for the embrace of radical uncertainty, danger and innovation.

In North America Neutrones is rapidly spreading. Originally work-songs among Mexican nuclear telepresence workers and telepresence sailors, this is the new kind of "blue collar music". Moza, the remote descendant of hip-hop and symphonic punk, is however holding steady as the most popular kind of music, especially the Christian Moza that is exported to Lunaside.

Kuburan Bender is probably the first art style to be cross-species. Invented by the Nagapartai, it involves neogenetic manipulation of the environment to play with the "musicians" using whatever modalities they can control – sound, light, plasmids, spam or possibly imaginary spirit fields. Bender "tunes" have propagated across Indonesia and now reappear in remote Dragon Zones.

Ignorancia is the dance craze of South America. A combination of capoeira-like acrobatics (easy these days when the New Church sacraments are around), improvisation and apparently joking, child-like lyrics it is actually a form of good-natured communal mockery of authority and each other when done right.

Some new professions

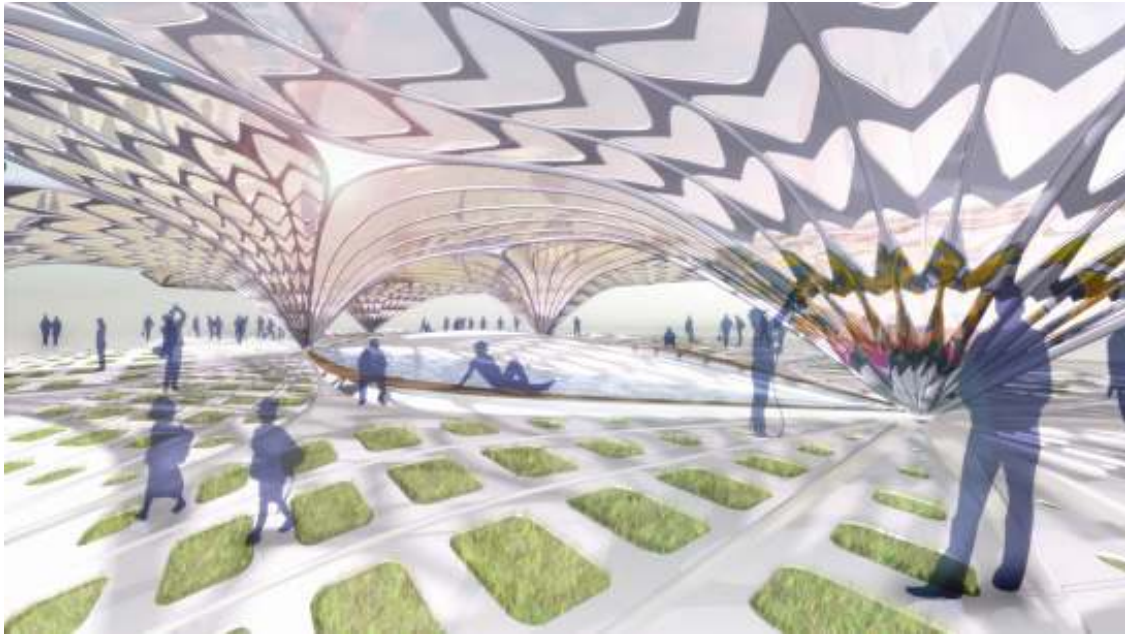


Figure 5: (aesthetechtonik.com, Kalyx)

Data archeologist

A surprising amount of information from the late 20th and early 21st century (“the forgotten century”) is fragmentary. The early electronic media were not stored on durable storage media, or relied on formats which have subsequently become unreadable. This is especially problematic with 21st century encryption, which still remains cumbersome to break even with sizeable quantum computer arrays.

The Spamocalypse also corrupted vast amounts of information. While much has been restored from backups, the sheer amount of data any modern culture produces makes it unprofitable to restore everything. Instead just essential and apparently interesting data has been systematically restored, and the rest languishes in storage. Getting a particular piece of mid-century data requires a mixture of detective work, diplomacy and technological skill in order to find, free and read it.

Some data archeologists make a living going over inherited or bought data troves from old-timers, digging up useful information and selling it to the right people.

Brainhunters

Headhunters try to recruit the right people, brainhunters try to recruit the right brains. Thanks to syntronic technology the Society of Mind can share many mental tasks and excel at a multitude of skills. But there are still gaps, especially when it comes to unusual abilities and different perspectives. Brainhunters try to find quirkiness outside the already wide range of the Society, and then get the eccentric to agree on at the very least a detailed brain scanning and ideally to join the Society.

Tricknologists

Tricknologists are the late 21st century descendants of the hackers. They trick (i.e. hack) not just software but all forms of technology - bioware, memes, sensor networks, syntronic brain tissue or laser arrays. In particular they exploit that technology is diffusing extremely unevenly. The multitude of incompatible systems is a deliberate precaution against monocultures vulnerable to infiltration. But the sheer number of weird and local technologies available, often combined in complex and ad hoc ways, produce endless loopholes and vulnerabilities. The tricks may all be local, but that is enough for a tricknologist to get ahead. Many tricknologists spend time learning about local technologies and then move to a different polity, where the everyday tech of somewhere else is utterly out of context.

Retologist

Retologists handle the intermeshing networks that convey data within the human metacivilization. They help optimize data transfer, set up protective firewalls, organize greyhound spam-hunting and guide the netwhales. They try to ensure that all the communications layers work, from basic laser links all the way to syntronic high-security brain2brain communications.

Simplicity expert

It is easy to live an overcomplicated life. Simplicity experts combine lifestyle coaching, information management, a bit of feng shui and an ability to give frank criticism in order to help overextended people get their lives into shape.

Engineer-Priest

While there are numerous ordinary engineers across the Immunity of the Three Saviours the engineer-priests hold a special role. They are ordained priests of the New Church and hence able to control neogenetics. Rather than use it to tend directly to the congregation they serve it by maintaining the biotech infrastructure of South America: inventing, growing, maintaining and monitoring the complex industrial ecologies that cover the continent. In particular they lead the ubiquitous PanPec system, the high-tech factory/hospital/school installations that are the cornerstone of the New Church's success.

Immunity auditor

An immunity auditor travels around a biosphere or between biospheres, checking the integrity of its neogenetic immunity. Often this is just routine checks of sensor dusts and environmental negome scans, but sometimes more extensive challenge testing is done where harmless but new plasmids are introduced and the response monitored. Other duties involve checking the quality of biosphere isolation and the activities of neogenetically enabled people and technologies. In serious cases immunity auditors visit habitats where contamination has taken place and try to estimate the severity and type of infection. Some immunity auditors focus on unraveling what neogenetics has done to organisms, others act as security professionals trying to shore up the neogenetic security of a place.



Immunity adjuster

Immunity adjusters are neogenetic doctors or ecologists specializing in controlling and improving immunities. They provide (or develop) update plasmids, check for immune degeneration, epistatic takeovers and autoimmune disorders.

Host/Immunity trainer

Especially in the African immunities people gain new powers by having a neogenetic immune system. These can be tricky to use or even dangerous, so training is necessary. Immunity trainers educate users in how to use their powers: how to think and feel to make use of neogenetics, useful plasmids, dangerous effects and an overall philosophy of how to change biology (in many cultures filled with mystical, magical or religious overtones). Host trainers have an even tougher job: they train new Hosts, far more powerful and correspondingly more dangerous to themselves and others.

Quality Inquisitor

Within the New Church the quality inquisitors inspect the quality of the genetic sacraments, biotech infrastructure and the orthodoxy of the ecology. Often working incognito, they report to the Congregation for the Quality of the Faith – a mixture between quality assurance, inquisition and genetic-counterespionage. While mainly tasked with controlling the competence, safety and purity of the priesthood they also act as the Church's biological spies, reporting back any suspicious biological activity. If necessary the Congregation will then bring in temporal

authorities, the Ecological Congregation or the rumored Special Missionary Force to deal with the problem.

Loyalty Manager

In some regions (most notably west Africa and parts of China) neogenetics is used to control people's motivations. Such social control schemes require constant tuning: mindless servility is useless, but true loyalty requires minimal and deft control. Loyalty managers handle the distribution and application of behavior-controlling plasmids. Often they also undertake memetic, sociologic or intelligence manipulations to ensure the right kind of social stability. Some loyalty managers are little more than brainwashing experts, others are spin-doctors or run AI-supported mass complicity schemes. As sociotechnology develops non-neogenetic loyalty managers are becoming more common elsewhere, although most would take offence at the term.

Immune Breaker

Immunities are for life, but there are usually a few shutdown codes to end them (e.g. for medical emergencies). Changing an immunity is nontrivial and often a bit dangerous. Still, some people want to take the risk, for example escaping the sinister control of Maponyo or because they have become convinced that the New Church holds true salvation. Immune Breakers are medical/neogenetic/Host specialists at unlocking immunity and replacing it with something else. Some are acting with full official sanction like the Conversion Priests of the New Church, others are illegal like the European node smugglers or the Iyë-iyanu "apostate-makers".

Telepresence jobs

Telepresence is the sensible way of working "outside" in space, and has become common on Earth and Luna for many forms of "manual" tasks. Telepresence sailors control their ships from their homes or offices, telepresence farmers tend crops, forests or ecosystems from afar, telepresence mercenaries do security work from the safety of a team "bunker" near home using drones.

As a result of the spread of telepresence equipment numerous other professions have developed. Telepresence designers design the control interfaces, telebody doctors repair or tune telepresence bodies, warreners maintain "warrens" of bodies and equipment, telesecurity professionals ensure that the devices cannot be hacked or that they cannot be used in secured locations etc.



Figure 6: (Levi van Vleuw)

Bodysculptor

A Host who uses neogenetics to reshape the bodies of willing subjects. It can be for medical purposes or counteract infections, but also for enhancement, esthetics or competitive morphology.

Bioartist, Biocurator, Ecotect

Developing new lifeforms is both big business and a popular art form. Unique lifeforms are valued. An authentic green sea turtle or an exquisite artificial orchid with textured fur are both worth a handsome sum. Bioartists design and biocurators tend the various lifeforms, while ecotects set up environments that they can live in. While the most famous ecotects create unique designer ecosystems the real money lies in building and *maintaining* the enclosed ecosystems of space habitats and arcologies.

Artilife designer

Artilife is the new nanotechnology. Like biotech, it is flexible and robust, and like nanotech it can be used in environments normal life cannot stand. Artilife designers construct the fundamental processes of these "lifeforms", giving them fantastic capabilities – and debugging them when they do not behave as they should. A very young business, most artilife designers have a background in biotechnology, nanotechnology or complex system design.

Explanation manager

In an extremely complex world there is much that needs explaining – turning descriptions in one language or field into descriptions that make sense to other people. This has been revolutionized by the spread of AI, but AI tends to be bad at recognizing whether explanations make sense. Explanation managers are people who run banks of explanatory AI and make sure they actually help.

Food Designer

Since most food in space is cultured and manufactured rather than grown, traditional chefs are rare. Instead food designers rule: they create the blueprints for what people eat. They combine nutrients, flavors, texture and “special effects” into delightful combinations. It is a competitive field where many fashions and trends intersect; a designer who manages to invent a blockbuster dish can gain much fame and money, but nobody remembers last month’s favorite dish.

Geofront Engineer

Expert on building underground living spaces. Mostly a Japanese and Australian field, where the geofronters construct enormous caves suitable for habitation. Geofronts have to be stable and secure, as well as having functioning hydrospheres, reliable air and energy, be suitable for ecotecture and link up with existing cave systems. On Earth the demand is relatively weak and the less stable crust makes security standards hard to meet.

Cortifacer

Cortifacers splice neural implants, syntronics or artificial brain tissue into brains, or conversely copy interesting neural circuits for use in cognotech. Most cortifacers work closely with syntronics.

Containment Expert

Far too often a biosphere has to be kept sealed to keep something in or out. Containment experts help design and maintain the hermetic isolation needed for many cultures. In space this is mainly a logistic task (although places like High Vegas have amazingly complex demands). On earth it can be very practical: how to keep tainted air from leaking into a hermetic biodome, how to prevent a dragon bloom from enveloping a prized ecosystem or to stop the spread of Blight. Tools range from sealant spray over biotech dams to cauterization nukes.

Whisperer

Whisperers manage memetic campaigns, literally producing “word of mouth”. Some are just viral marketers, but other work for memetic intelligence or polity stability groups.

Interfacers

Interfacers are specialists on transcultural issues: how different value systems work, how cultures interact, how to mediate between them. Since the sheer number of incompatible worlds has grown the demand for good interfacers has grown in parallel. Today they advice lawyers, companies or anybody needing to deal with (to them) strange beings from elsewhere.



Figure 7 (Foster + Partners)

Adjudicator

The shift towards small scale communities on Earth also led to a shift towards informal adjudication, whether by village elders, imams or café ad-hoc magistrates. As time went on the need for reliable mediation grew, and adjudicators developed as a special profession. Adjudicators have some legal training, but are equally anthropologists, psychologists and experts on applied wisdom. They act as community judges and diplomats, often certified by higher-level or online authorities as trustworthy.

Lawyer

The same as always, but now with sentient expert systems! There are a myriad specialities, many based on the complex multipolar nature of the world. Jurisdictional specialists handle the legal problems of jurisdiction, time-lag specialists handle legal issues due to time lags (which can make financial actions or contracts across longer distances truly complex). Treaty specialists handle the myriad treaties crisscrossing space, and there is a whole cadre of UNCLOS IV specialists who interpret the remaining foundational treaties for space exploitation. Foundation stewards maintain the foundations used by syntronics, AIs and semisentient corporations to hold their assets, while personal status consultants deal with the issues caused by neogenetic changes. Ecological liability lawyers deal with the numerous suits about ecological change on Earth, while debris liability lawyers are about as common in space. Smart contract programmers write self-enforcing or active contracts.

NEO exploitation specialist

The astronauts and engineers sent to survey, catch and mine asteroids and comets are commonly called NEO exploitation specialists, although “space miner” is often jokingly used. Most live comfortable shirtsleeves jobs in cislunar space planning and monitoring the process without even getting their telepresence hands dirty. A small minority, the true “rock catchers” go out to fetch the objects.

Debris Handler

Space debris is a major problem, and debris handlers (“garbage collectors”) earn their pay by reducing it. Some debris handlers spend most time negotiating deals with polluters and OTA, and then vaporize the offending debris using a laser array. Others actually go close to the debris and pick it up, change the orbit or hit it with a laser broom. It is often meticulous, boring work that occasionally pays very well.