

Humanities and other systems of existence



Figure 1 (Mondolithic studios)

*The Tao is great.
 The universe is great.
 Earth is great.
 Man is great.
 These are the four great powers.
 - Tao Te Ching, S. Mitchell translation*

By 2100, there is no longer a single mankind. The civilization that fills the solar system is composed of beings derived from humans, dragons and artificial intelligence in varying degrees of mixture, and the important demarcation lines are no longer between nations, cultures or species, but between different “systems of existence”.

	Neogenetic signature	Neogenetic immune system	Can affect others	External Connection
Normals				
Infected	+			
Enhanced	+	+		
Hosts	+	+	+	
Voices	+	+	+	+
Immune	+	+		
Recompiled		Total		
Syntronics	(+)			+

The color code



Figure 2: “I am in danger. You are in danger. Japan is in danger. Protect yourself with yellow.” (Symantec)

The Biosphere Integrity Standards Authority has a detailed system for assessing what risks are associated with different biospheres. This complex system is often simplified down to a color-code, which is popularly used to denote what kind of habitat a place is, or what a person is.

White	Neogenetically incompatible (recompiled or artilife)
Indigo	No modification to genome
Blue	Only traditional genetic enhancements.
Turquoise	Neogenetic enhancements, but no active neogenetics.
Green	Immunity (and possibly enhancements), but no active neogenetics. Immunities allowing neogenetic activity like Maponyo are not included.
Yellow	Neogenetic effects (Infected), but no detectable active neogenetics.
Orange	Active neogenetics.
Red	Active, volitional neogenetics (Hosts) or has been in the close vicinity of Dragon or Blight activity without protection (Voices)
Black	Blight.
Magenta	Dragon tissue.

As a rule of thumb, people try to avoid contact with other colour classes even if they are protected. An immune (green) person encountering active neogenetics (orange) will at least temporarily be classed as orange or yellow and quarantined, in order to remove any plasmids or spores. Indigos permanently lose their class if they encounter a biosphere at beyond turquoise. A variety of protective encounter suits have been built to protect visitors from their environments or vice versa.

Normals



It cost too much, staying human.
- *Bruce Sterling*

These are the "original" Homo sapiens, with no genetic modifications or a few traditional genetic modifications introduced before the rise of neogenetics. They lack neogenetic immune systems, making them vulnerable to neogenetic influences.

Normals tend to isolate themselves from potential sources of neogenetic infection such as Infected, Enhanceds, Voices and Hosts. The Immune are not in themselves dangerous but may unwittingly carry spores or plasmids. Usually Normals prefer to keep to their own habitats and not allow anybody in. On Earth they live in sealed habitats.

Enhanceds



Figure 3: Hirsute enhancement, intended more for aesthetics and entertainment than polar exploration. (Nick Cave)

New genes demand expression -- third eye.
- *Greg Bear*

While still largely similar to the Normals, the Enhanced have been modified using neogenetic therapy. Changes might include disease cures, life extension, adaptation to space, the arctic or the sea or drastic changes of body and mind. They are still vulnerable to neogenetic influence.

While Enhanced have benefited from neogenetics they are still very wary of Hosts and other sources of neogenetic change. They tend to isolate themselves from Infected and treat Hosts with caution. The Immune are risky (since they may carry plasmids), and the Voices are viewed as downright dangerous.

Infected



Figure 4: Woman suffering from the "Diana 5 plasmid". (Philip Toledano)

*I'm infected by your genetics
I'm infected by your genetics
And I don't think that I can be fixed
No, I don't think that I can be fixed
Tell me why, oh why are my genetics such a bitch?
Repo! The Genetic Opera*

Unlike the Enhanced who voluntarily selected to modify themselves the Infected were affected by neogenetic programs of unknown or malign origin. While the vast majority was infected by the Dragons, others were affected by terrorists, intelligence agencies or other groups.

Infected cannot be "cured" unless all secret genetic programs are revealed (a daunting task, nearly impossible without scanning *every* cell). They are viewed with fear and hate by many Normals and Enhanced, who suspect they might be neogenetic time bombs or potential Dragon blooms. The Immune have less to worry from the Infected, and Infected can be immunized. They can also become Hosts, although this is risky – latent Dragon genes may activate, causing them to bloom. A few Infected voluntarily join the Voices of the Dragons, believing themselves to be halfway there.

Hosts



Figure 5: Host (D-baker)

A human with the AM node. Hosts are able to change themselves – and other organisms - in various ways, and have a neogenetic immune system.

Psychological problems

Hosts are caught between the general public's fear of neogenetic manipulation and the desire to use it. They are scrutinized, monitored and generally kept somewhat at an arms length even by their employers. At the same time new advances in industrial neogenetics is introducing competition from AIs, syntronics and in vitro neogenetics that challenges the traditional views they have of themselves.

Immune



The Immune are people with a limited AM node, not able to induce changes in others and often only limited effects on their own bodies. The main feature of the Immune is their ability to withstand neogenetic influences, although the node does tend to amplify characteristics.

The Immune also live among other Immune species, equipped with versions of the AM node. Such Immune ecologies act as a distributed immune system resisting incursions of the Dragons and other Immunities.

There are several incompatible immunities. The most well known are the L'immunité (much of Western Europe, North America and West Africa, with local versions like the German Immunität and various american forms), the Central African Immunity and the Immunity of the Three Saviors in South America.

Voices



Figure 6: Voice of the dragos (D-baker)

The Dragon Voices are humans who have developed a symbiotic relationship with the dragons. They are all hosts, but have linked their minds with the Dragons. Some are "dragon savants", little more than neural processing nodes that do not act and spend all their time in vegetative contact with the Dragons. Others are mobile, some ("drones") just sensors and actuators for the dragon consciousness, others retaining more or less elements of human mentality.



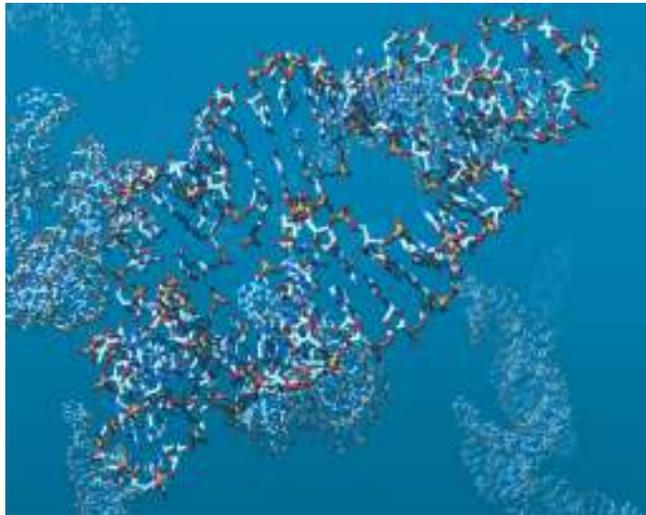
Figure 7: Voice of the dragons (D-baker)

The Voices live mainly in coastal dragon castles, especially around the Indian Ocean. A thriving community also exist within the Caribbean-Amazonian Zone. The “capitals” are Mogadishu and Dar es Salaam, where most interaction with the outside occurs. Juhani Kauranen, the first spokesperson of the Voices, was transformed at his breakdown into the Kauranen Castle just outside Mogadishu. New Orleans is emerging as another Voice center, where the Caribbean Zone appears to attempt interaction with humans.

Although individually the voices are not stronger than ordinary hosts they can draw on the immense power of the Dragons to craft truly subtle neogenetic signals. People with neogenetic immunity are only relatively safe from them.

Economically the Dracosphere is the source of biodesign par excellence, both inventing new designs whole cloth or doing contract work with other societies. This makes it worthwhile trying to deal with the more than eccentric Voices. The Dracosphere is also the major producer of Earth climate. *Potentially* it could sell climate control and weather maintenance to other societies. Many attempts are made to get it to play a proper part in the climate system. In exchange it buys information, various hard tech services like satellite communications and transport systems and syntronic processing.

The Recompiled



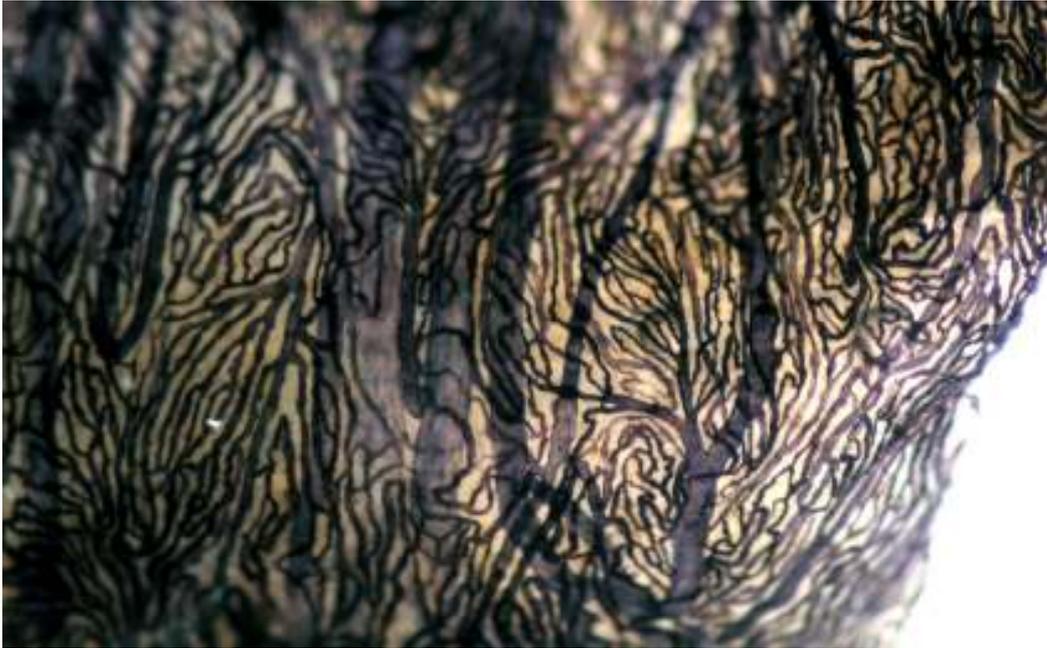
The Recompiled are the result of genetic modifications that replace the ordinary genetic code with an artificial genetic code with no susceptibility to neogenetics.

The recompilation process is still very expensive: an ordinary genome is sequenced, recompiled into the new code (it is also usually cleaned from retroviruses and known genetic flaws, possibly with some enhancements thrown in) and then synthesized. This new genome is then inserted into a denucleated cell and implanted in the mother. The result is a child that can never be affected by plasmids and most viruses. The first recombined were born in the late 2040's.

Beside Recompiled humans recompiled plants and animals are also emerging. The problem is that recompiling enough variants to create diversity is expensive, so usually the environments with recompiled life tend to be rather genetically similar.

The Recompiled are fairly similar to normals, and often live in their habitats. Just like the Immune they can carry plasmids with them.

Syntronics



Syntronics have added neurocomputer tissue to their minds. Usually the extra brain tissue is kept outside at some co-location company, linked to their mind using wireless networks. This allows tremendous expansion of their mental abilities in certain directions such as math, finance, information gathering or planning. The drawback is that they have to retain their link (if it is broken they tend to become confused, faint or be deranged until it is restored), the long training/growing and a strong tendency towards becoming an obsessed expert in one's field. Being a syntronic is a career and lifestyle choice.

Syntronics can be Enhanced, Infected, Hosts and Immune. The Voices seldom use Syntronics since they are already plugged into the equivalent of vast neurocomputers.

If a person with syntronic consciousness dies, the neurocomputers survives. But they lack the core motivations and memories of the person, only retaining skills coded in their own idiosyncratic neural code. Very rarely extensive syntronics have left behind neurocomputers that still retain some personality and motivation, a kind of partial upload.

Some syntronics experiment in linking their minds using their interfaces. Although results have been somewhat disappointing various forms of "telepathy" have been demonstrated after much training. Other syntronics experiment with creating APIs to interface with AIs, further extending their capabilities and possibly enabling far more dramatic intelligence enhancements.

Syntronic tend to go into internal universes, perhaps as the dragons once did.

Other Entities

The Dracosphere

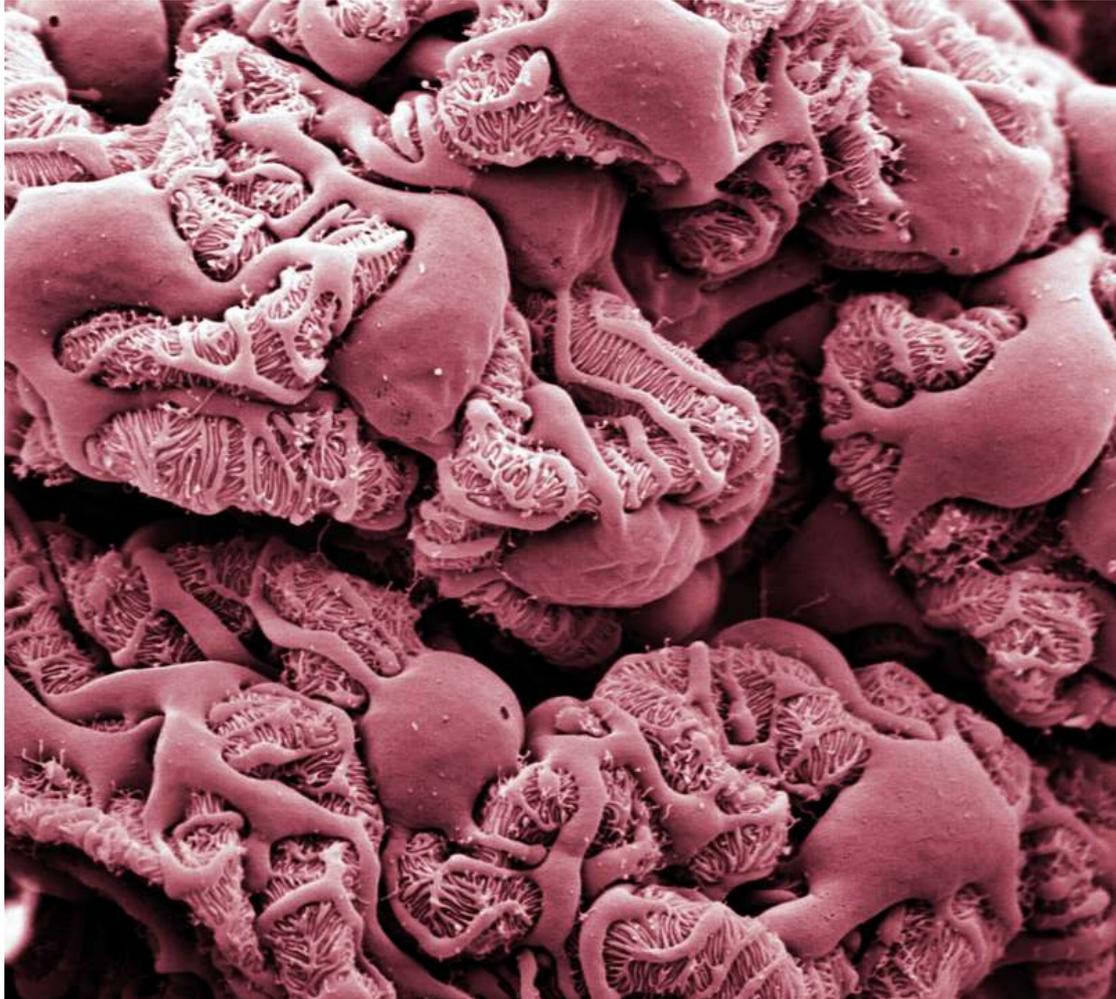


Figure 8: Dragon tissue (K. E. White)

The most alien system compared to traditional humanity. The Dracosphere consists of the enormous biomass involved in the Dragon consciousness, covering about a third of the Earth (mostly in the tropical oceans). Information diffuses between organisms as plasmids, neural links, chemical signals, flickering bioluminescence or radio.

Individuality as we know it does not exist. Rather, the dracosphere is what the old transhumanists called a functional soup, an enormous store of skills, abilities, computational resources, memory and biomass that can be combined into endless new combination. Within this soup exists teleological threads, the closest equivalent to individuals: issues, questions, problems or wills that bind the functions into temporary assemblages that seek to answer the questions or implement the visions the thread represents. The threads are constantly woven together, mutating and recombining. The Dracosphere is often described in mystical terms; here past and present are the same, memory is the same as existence, consciousness permeates everything but without any sense of self.



Figure 9: Dragon bloom (Chris J. Anderson)

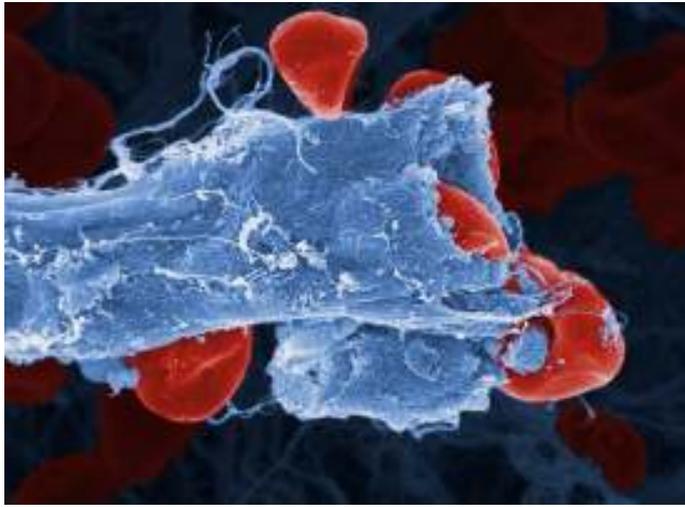
The Dracosphere seems to be attempting to upload as much as possible of the old crustal Dragon civilization. To this end it sends down deep tendrils to pump up plasmids encoding its knowledge, and is sometimes willing to buy deep core samples from regions it does not have access to. It protects its existence in general terms, but none of its parts seems overly concerned about survival. The Dragons do not seem to have any clear agenda beyond this, but this is likely because they cannot be pinned down in human categories. Conversely, it does not seem to have any single opinion about humanity.



The different Zones appear to have different "personalities", different biological-mental styles. The Indian Ocean Zone is highly expansive but also the most communicative. Its western edge is among the most uplinked regions, and the base of operations of the Voices. The Pacific Zone appears to content itself to colonize islands and guoyts, constructing some of the largest dragon castles but not communicating much within itself, with the humans or other dragons. The Amazonian Zone appears to embrace wild evolution and experimentation, recreating and recombining all kinds of species into a kind of dragon jungle which has inspired the new India. The Caribbean zone is very dense, forming nearly a single super-organism extending tendrils into the Atlantic. The Mediterranean Zone is far more agile and aggressive, constantly making inroads on land and evolving unusual mini-castles around Sicily. The Champagne Zone is apparently under French control, or rather cooperates with

L'Immunité. It mainly consists of subterranean rhizomes and nodes, infiltrating the landscape rather than reshaping it.

The Blight



Not so much a being as an idea or a virus, the Blight is a replicating neogenetic infection that causes vulnerable organisms to reproduce the Blight and die. It affect everything from bacteria to humans, dissolving tissue into an infective mass. Regions affected by it slowly dry out, and then the Blight spreads with the wind as dust. The Blight spreads like wildfire in any accessible biotope, and can only be countered by an immune system or total isolation.

AI

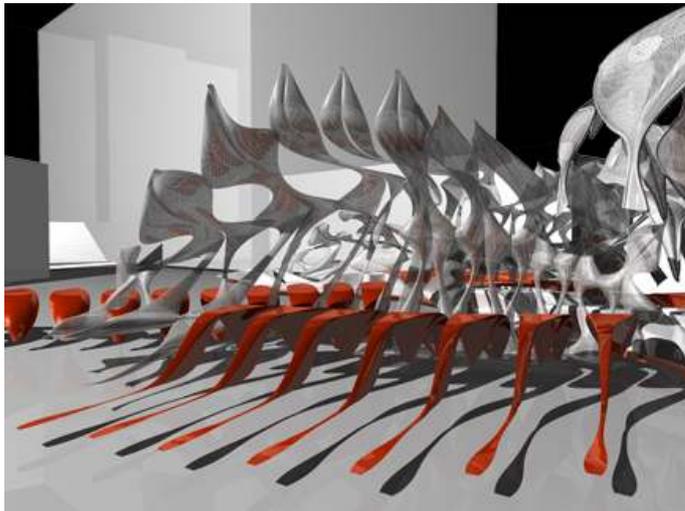


Figure 10: (Xefirotarch)

Artificial intelligences are common. Some are pure software, others based on neurocomputers or nanocomputers. Their mental reach varies enormously: Most are little more than local experts on single subjects, search agents or monitoring systems with very simple drives and areas of knowledge. Others, such as the dreamblobs, netwhales and artificial dragons have enormous information processing capability although they lack any discernible humanlike motivations. Some AIs have been constructed to think like humans (most are based on neural net scans), and much work is underway of actually transferring human minds into AIs. Most AIs are very alien and have just as little in common with humans and each other as humans have with the dragons.

The Net



The idea that the Net will one day spontaneously become aware and rise up as a godlike entity has been around since the start of the Net. Today it seems like something entirely different is happening: the amount of intelligences on the net, including the vast links to the Dragon neural nexuses, is so large that even if the Net itself is not intelligent it is teeming with intelligence. This has led to a phenomenon where various self-organizing and self-evolving systems are proliferating. Some are harmless, others cause outages and disruptions. The field of Net ecology has grown tremendously over the last years. Net ecologists are trying to manage the replicators, construct safe subnets and understand just what is going on.

The Lunar financial markets are a major focus of Net ecological studies. It is clear that the self-organizing behavior that emerged from the syntronic traders does exhibit suspicious forms of emergence (first taken as evidence for insider trading, then for the Invisible Hand of the Market and finally recognized as “something completely different”). Over the years it has become clear that much of the financial background activity actually constitutes a peculiar form of information processing. Some parts are useful to humans, like the probability estimates in information gambling markets or price mechanisms, but a significant fraction appears to be aimed solely at “internal” goals.

The Spam



Figure 11: (Billy Reynolds)

"We all evolved from spam," the computer maintains.

...

And the zombie network drinks deep of its thoughts, and Meredith's words whirl out into the greatness of the net, and they dance from place to place in the ledgers and the disks, reviewed, recorded, dissected, debated, that the sea of spam might learn.

--Rebecca Borgstrom. It Goes On Forever (A Variation)

Some emergent entities online are self-sustaining. They appear to be derived from Dragon thoughts, possibly combined with AI software, computer viruses, criminal marketing and old network weapons. While most such entities are nuisances some are both tenacious and dangerous. In 2100, they are known as Spam.

While replicators and viruses have been around since the 1970's, the great eruption occurred 2068 in the Spamocalypse. Suddenly all networks were flooded with far more competent replicators than ever before and the choice was between stopping communications or have essential services overrun. The Spamocalypse was ended by the deliberate sabotage or replacement of the old infrastructure. EMP-bombs were detonated over the tropical oceans, the Earth's smart dust infrastructure was broken down and there were even orbital strikes against some radio array growths in the Caribbean and Mediterranean. Since then much of information technology has been devoted to keeping spam down, and prevent another Spamocalypse.

Spam is not in itself smart, but it is very good at making use of other beings to survive and spread. Essentially it is a parasite that takes control over others and uses it to circumvent defenses and expand. The means range from persuasion to direct mind control. Fortunately most Spam is clumsy: while it can gain control over individuals and systems, it often tips its hand and can be attacked. The real problem occurs when Spam is lucky enough to get skilled personnel that helps it: at least one criminal operation is actually a front for the Spam.

The Society of Mind is terrified of Spam infections and maintains a strict vigilance against it. That does not prevent them from regularly finding attacks and worrying evidence of Spam manipulations. If the SoM can be said to have an arch-enemy it is the Spam: it supports numerous projects in software and

mindware immunology, gives free or cheap consulting to deal with Spam, implements various “vigilante” operations against Spam nests and generally tries to keep people aware of the threat.

On Earth Spam is everywhere, a form of software background radiation that infiltrates any insecure system. It seems able to get into even devices with no real net connection, possibly by using visual or auditory infiltration. Earth systems have to be either strongly hardened or simple to withstand the ever-present attacks.