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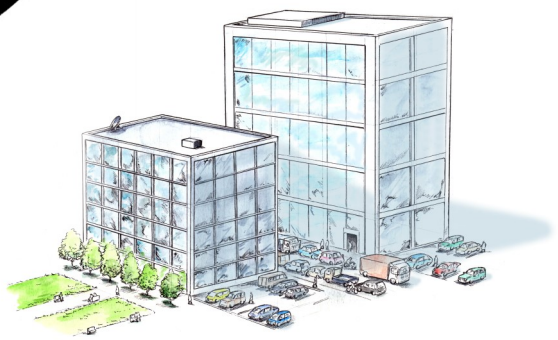
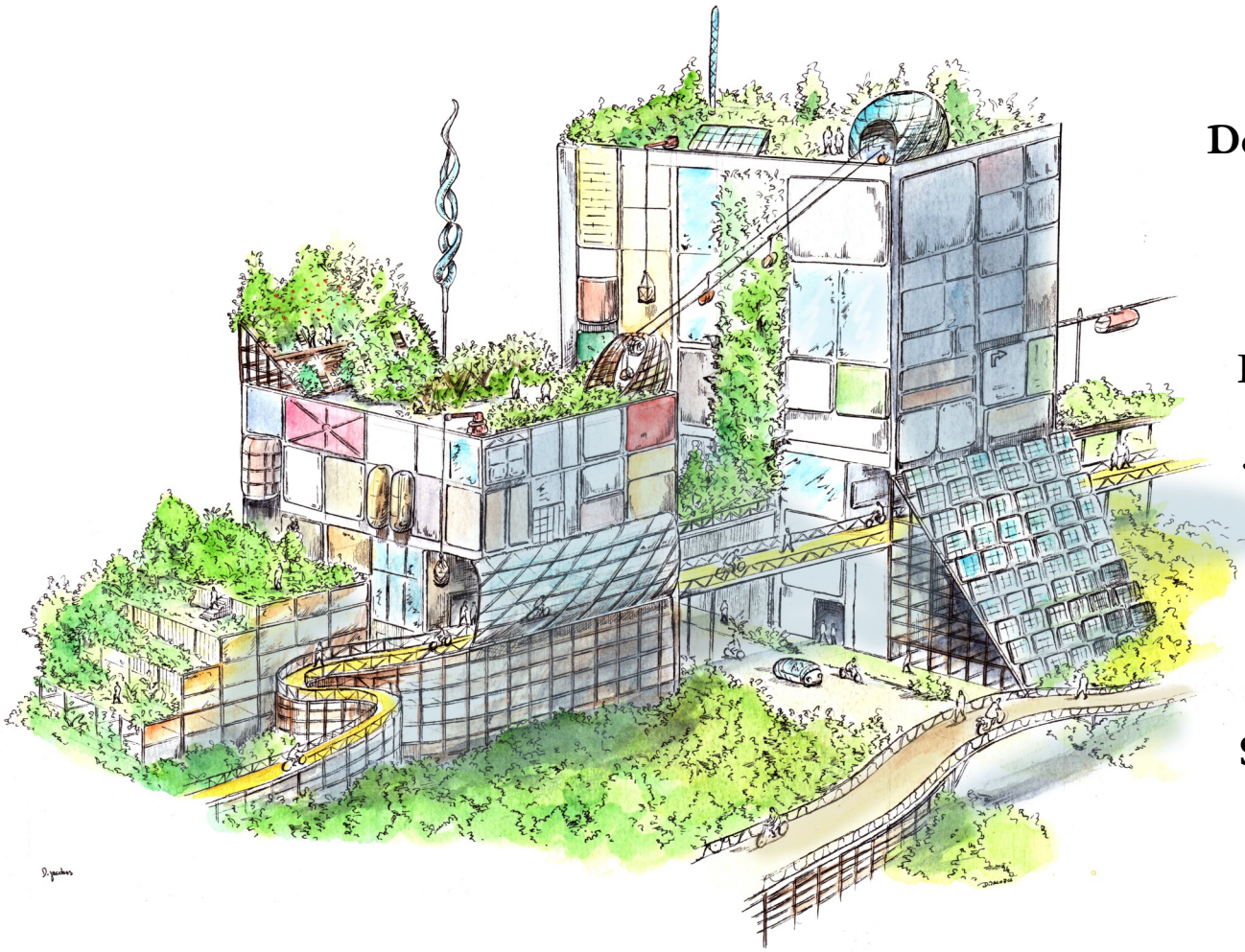
# SciPhi JOURNAL





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# Editorial

*Lectori salutem.*

As summer turns to autumn in the Northern hemisphere, and the global doom and gloom of ever new pandemic variants roll on, it is easy to forget that once upon a time speculative fiction had a utopian calling. The "scientific romance", as it was often called in the 19th century, sought to entertain, of course, but also to illuminate the reader and whisk them away to a better future. A future that is separated from the present not only by time, but by Progress writ large.

While contemporary SF tends to succumb to the temptation of merely projecting present challenges onto a date set later than our own, classic speculation took the liberty to invent futures both whimsically and radically different from the author's world. What more, these imaginary realms were oftentimes presented as aspirational – more appealing than the reader's own reality. Alas, with the exception of Gene Roddenberry's *Star Trek* (and possibly Iain M. Banks' *Culture*), one has to think hard to name any widely-known current SF universe one would actually like to inhabit.

While grittiness seems the dominant narrative mode of present-day sci-fi, there are utopian currents within the genre that offer relief from these dark overtones. One such stream is the emerging sub-genre perhaps best labelled as "solarpunk".

You may have noticed our slightly different cover this quarter. It is the work of Belgian artist Dustin Jacobus, and seeks to convey at a glance some of the solution-oriented optimism that typifies solarpunk. But don't take our word for it. In his essay, Eric Hunting offers a more substantial introduction to the resolutely positive outlook of this sub-genre.

David Kyle Johnson and Mina also return with fascinating essays on SF philosophy and speculative linguistics, respectively. And our autumn issue is, of course, filled with a band of stories ranging wide from humans wishing to make good impressions on invading aliens, to extra-terrestrial visitors who don't at all seem interested in Earthlings.

Speculatively yours,

the SPJ co-editors & crew

~

# Best Impressions

***Brandon Crilly***

That arkship is coming whether people want it or not.

A lot of the other tug pilots do. That's why they're hooking junk above the twinkling hemisphere below. We each have our sectors, and each of them is still clogged with enough debris to last two more generations. It's a calling, this job, but I don't feel the need to talk about it. Mostly I drown out the others' comm chatter with techno, but tonight I switch back to one of the arkship transmissions.

I've heard every recording, including from long before I was born. The originals are best, not the attempted translations. You can hear the truth of why they're coming in their natural speech. The translators and xenobiologists argue back and forth, but I don't understand how anyone can mistake what our future guests are saying, after really listening.

Their frothing, bubbling speech fills my cabin as I hook another long-dead satellite. Come the dawn, no one below will notice any difference in the sky. But unlike the sea and land restorations, this cleanup isn't for them. It's far more important, and thankfully on schedule.

Really listen to those recordings and you'll hear it. How much the beings on that arkship miss their home. Longing and regret are hard to capture in translation. Something must have happened, and now they're coming here; maybe because we're the only bright spot they could see. Luckily, their ancestors started sending word ahead, and mine started preparing a better first impression, and both of us have kept our respective sides going.

I won't see the orbital cleanup finished, but that's okay. As long as it's done before our guests arrive. Maybe if they see a world that's beautiful and pristine, they'll be less likely to destroy it like they did theirs.

~

# On Solarpunk

***Eric Hunting***

With roots in the niche ecological SF of the late 20th century, such as the book *Ecotopia* by Ernest Callenbach, and Post-Industrial futurist works like Hans Widmer's *Bolo'Bolo*, Solarpunk has emerged as one of the latest literary/aesthetic movements to adopt the "--punk" suffix. Its essential premise is the envisioning of a positive, hopeful, environmentally sustainable future as a reaction to the dystopianism endemic to turn-of-the-century science fiction and the Cyberpunk movement in particular. It likewise stands in opposition to the dystopianism of 'dark green' environmentalism, with its endemic misanthropy, demonization of science and technology, and nihilistic resignation to environmental collapse and mass death. It asserts the sort of pragmatic optimism that is now a radical, subversive stance in a popular culture that has largely abandoned hope for the future.

Though often aspiring to utopian ideals, Solarpunk is largely focused on the more near-term transition to a Post-Carbon, Post-Industrial, Post-Scarcity culture across the current century, illustrating a path through contemporary trials and struggles to suggest positive outcomes from the present environmental, economic, and political crisis. It is neither anti-technology nor naively pro-technology (as per techno-utopianism). It sees technology as neither an enemy nor a solution in itself. Rather, it sees the cultivation of an appropriate culture as key to a global transformation. Philosophically, it tends to align with contemporary anarchism, mutualism, and libertarian socialism as well as movements such as Peer-To-Peer, the Cooperative and Commons revivals, Maker, and Open Source/Knowledge.

**Solarpunk Themes**

The overarching narrative common to Solarpunk is one of transition from an old, decrepit, pathological Industrial Age to a new sustainable one, which can often incur struggle and conflict based on the passive resistance to change in an ignorant and heavily propagandized society and the active, often violent, resistance of the vested interests benefiting from old power structures and economic hegemonies. The most definitive narrative is one devised by futurists/ writers Alex Steffan and Cory Doctorow dubbed The Outquisition, which suggests a cultural movement fostered in the 'cloisters' of today's eco-villages, communes, maker/hacker spaces emerging as a nomadic activist community seeking to intervene in crises created by the progressive failure of Industrial Age infrastructures and economics in the face of climate change impacts, seeding technologies of local resilience and the paradigms of a new culture along with them. This is typically imagined in an urban setting as these are the most vulnerable to these failures and because the reinvention of the city as a positive, desirable, and more sustainable habitat is crucial to achieving balance between civilization and the natural environment. Other themes include the struggle to preserve or restore the natural environment in the face of capitalist exploitation and political malfeasance. Far future themes tend to concern the resurgent threats of Industrial Age legacy or unexpected effects of technology to already established, and perhaps somewhat complacent, utopian communities.

**Solarpunk Aesthetics**

The Solarpunk aesthetic can be summed up in the single word 'organic'; as reflected in Frank Lloyd Wright's use of the term for his 'organic style' of architecture – with its roots in Asian vernaculars and the Arts & Crafts movement – the 'free-form organic' design emerging in architecture of the 1970s, its rediscovery in contemporary 'parametric design' deriving from the underlying mathematics of natural forms, the primitivist patterns of ancient cultures and vernacular building techniques such as earth and rough timber, and the more fanciful visual identity of the Art Nouveau movement. Artists/designers such as Luc Schuiten and Friedensreich Hundertwasser offer ready examples. But aside from appearances, how and what things are made from are key aspects of the aesthetic. Solarpunk explores a culture and habitat aspiring to optimum circularity in resource use. Where unsustainable materials like plastic have been largely obsolesced along with the equally unsustainable and pathological practices of the market economy, such as disposability, planned obsolescence, sliding scales of economy, and speculative production.

Again, we must emphasize that this is not about some return to the hand-made past, even if, in the near-term, we might expect a revival of many old techniques as part of the transition from Industrial Age paradigms. Automation is prominent, even ubiquitous, in the imagined Solarpunk future, but in forms very different from the Industrial Age retrofuturism of corporate techno-utopianism. It is local, non-speculative, demand-driven, highly generalized production enabled by robotization and emerging as a community/municipal utility. The paradigm of centralized mass production has been supplanted by a new paradigm enabled by new technology; cosmolocalization. Design global, make local. The key to freedom and resilience is in the communal and personal ownership of the means of production and the digital globalization of open industrial and design knowledge. Counterintuitively, Solarpunk is very much about anticipating the impacts of robotization and even more advanced nanotechnology.

Solarpunk (or more generally, Post-Industrial) design and artifacts may often have features we might associate with old Modernism, but now pragmatically adapted to the service of environment and social empowerment. Minimalism for the purpose of enabling adaptive reuse and easier recycling. Modularity to allow immediate reuse and empower the end-user to undertake their own design, customization, and repair.

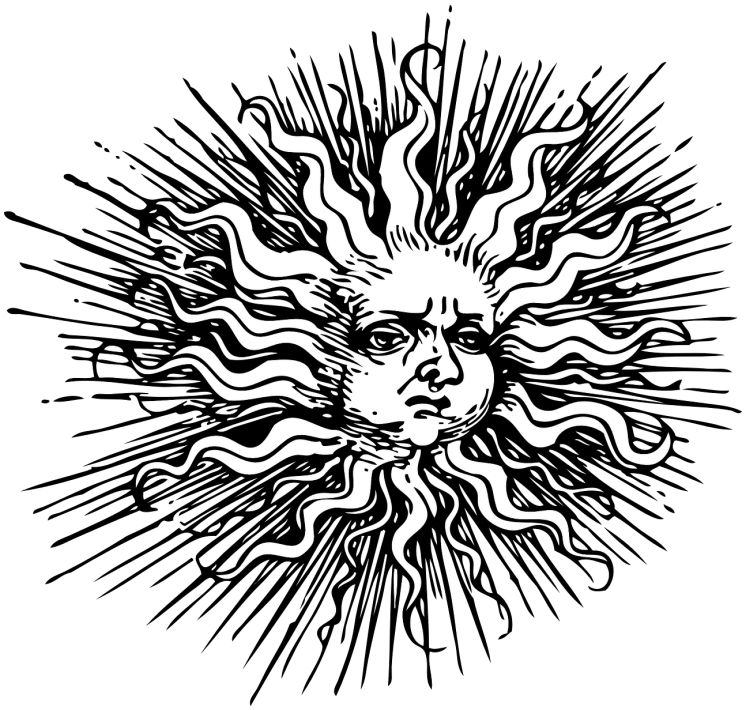
The definitive Solarpunk setting is a verdant city or village, often set against an adjacent restored natural landscape, where a new cultural respect for the environment is expressed in the increased use of greenery and symbolic biomimicry throughout the urban habitat – in the practical role of urban farming as well as for aesthetics. There is much visible use of solar and wind power systems with some architecture specifically designed around them. A clear boundary is drawn between the territory of humans and nature. Suburbia has been rendered obsolescent and the future built habitat no longer sprawls cancerously across the landscape. The architecture is humble yet eclectic in nature. Visible cues of class distinction are absent. This is a more egalitarian society that has conquered poverty once and for all.

Such communities may be based largely on the adaptive reuse of the urban buildings of the past, giving it a quirky, makeshift aspect hinting at a transitional era. Or this may be an entirely new city with architecture unique to its cultural sensibilities and novel technologies, often appropriating aspects of the more human-centric, walkable cities of the ancient past. It may show signs of the impacts of a world forever changed by global warming, such as the transformation of streets into canals. Some may be cities of conventional scale, others based on vast urban superstructures, and others small cloistered havens in unusual settings. Hidden forest or mountain refuges, artificial islands at sea. Automobiles have been largely eliminated and what remains are electrified, with much of the cityscape recovered for human use and the creation of social spaces. Human-powered vehicles like bikes and velocipedes are common, along with personal electric mobility devices. Quirky electric aircraft may be common for short-range use, but the airliner is a fading memory, replaced by sophisticated solar-hybrid airships (with the option to safely enter the urban habitat) and a variety of hybrid ocean-sailing vessels. But the primary form of transportation in this future civilization is rail, as the single-most energy-efficient form of transit possible, albeit in new electric forms that better integrate into the urban habitat, sometimes entirely internal or subterranean. Most commercial buildings have been repurposed or eliminated and art replaces the oppressive torrent of urban street advertising.

**Solarpunk Economics and Society**

Simply, if crudely, described the Solarpunk culture aspires to the ideal of the Star Trek Economy, but without the contrivance of magical technology. Rather, it is realized through a culture of fundamentally greater reason and responsibility. Solarpunk futurism anticipates and aspires to a sustainable (sometimes imagined as moneyless and stateless) post-scarcity culture on the premise that scarcity, given the technology of the present, is largely a deliberate construct of market economies intended to engineer dependencies and hegemonies concentrating wealth and power. It imagines these overcome largely through the cultivation of local resilience, with renewables in their many forms, independent production, and regional and global resource commons key tools to this end. And so there is an expectation of the realization of a kind of cosmo -local gift economy built on an essential cultural principle of open reciprocity empowered by the elimination of precarity, anonymity, institutional sociopathy, and their psycho-social effects. With the advance of industrial literacy in society comes an awareness of the great leverage of renewables and automation, the actual scarcity and value of goods, and a realization that a comfortable life is nowhere near as difficult to attain for all as it has long been thought. With a bit more social and environmental responsibility, a sustainable 'middle-class' standard of living is universally attainable in some balance with nature and we need nothing more to drive a digital economy than the record of what gets taken off store shelves and sent up the network. So then, why not let it all be free-within-reason? In such a culture it is imagined that crime has been greatly reduced as the products of precarity and anonymity and what remains can be managed and treated as the mental illness it ultimately represents.

As a post-scarcity culture, the Post-Industrial ethos is imagined as driven chiefly by the true human motivations; purpose, mastery, autonomy, social appreciation or love, and simple pleasure. There are careers and professions, but no 'jobs'. There are entrepreneurs, but no capitalists. There is capital, but no banks.



**Solarpunk Archetypes**

Much as Cyberpunk's archetype was the 'hacker-hero' in conflict with corporate and government oppressors, the Solarpunk archetype is a 'maker-hero'; an eco-tech MacGuyver on a mission of cultural evangelism whose seditious independent technical, industrial, and science knowledge are leveraged on the transformation of the urban/industrial detritus, saving people from the crisis of climate change impacts (represented as "global warming") and the ravages of late-stage capitalism. Alternatively, their mission may be more focused on the defence of nature; endangered wilderness or species. The Solarpunk protagonist could have many origins and may well be transhuman, employing exotic technology in their own body to the purpose of withstanding the effects of a changing environment or to gain a deeper connection to nature beyond that of the typical human. The typical hacker-hero is often radicalized by revelation or betrayal. The maker-hero perhaps similarly radicalized by the living experience of environmental disaster, the inevitable atrocities of governments and corporations in response, and generational betrayal – the false and broken promise of the Industrial Age's techno-utopianism resulting in later generations' endemic cultural nihilism.

**Solarpunk Media**

At present the Solarpunk movement remains somewhat nascent, largely unknown to mainstream media and still little known to the field of Science Fiction media. Its premise in a pragmatic optimism perhaps difficult for previous generations of writers, building careers on the earlier waves of dark and dreary dystopianism, to grasp. There is, as yet, no event culture akin to that of the Steampunk movement. But in the past few years media in the genre has started to blossom, particularly among younger writers and with the benefit of the convergent Afrofuturism movement. Independent gaming and online culture have proven receptive. There is potential for a new definitive aesthetic for our time and transition to a Post-Industrial future.

~

# How I Became a Willow

***E. E. King***

We learned the secret to eternal life. Hand washing.

This was the catch. We had to wash our hands continually. We had to eat through straws. Pay others to attend to our bodily needs. Because if we were separated from soap and water we would perish, overcome by a sea of bacteria. Sunk in a tide of virus.

Those we paid to feed us were doomed to die, but that is nothing new. The poor have always bathed the rich.

And so, society evolved into two classes, the washed and the unwashed. The clean and the unclean. The saved and the damned.

Still, it wasn't much of a life. Stuck at our sinks, we designed computers we operated with our toes. We converted our mirrors into screens. We wore virtual reality googles. But no matter how clever the sensoround, or how compelling the avatar, eventually, over centuries, we had to confront the reality. We were the doomed. The dammed. The isolated. Alone.

Some of us tried to reach out, metaphorically. We tried to become friends with our caretakers, but that always ended in death. Besides, by then our minds had changed. We were unused to conversation anywhere but inside ourselves.

And so we began again. We Invented mechanical feeders but that only increased our loneliness.

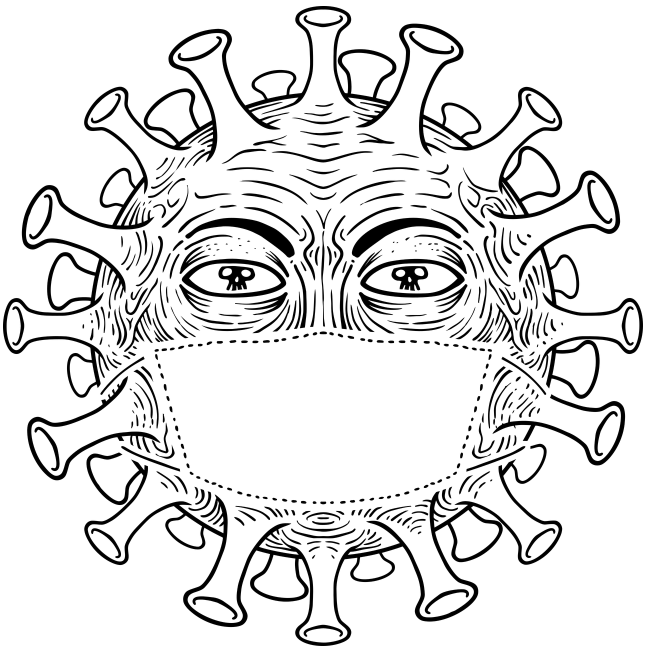
We had our keepers make biodegradable soap, so that we could venture out into nature. Carrying portable washbasins strapped to out chests, we were wheeled, or driven, to lakes, rivers, and tide pools. By then, over the decades, we had lost use of our legs. Only our hands, clean and ever moving, remained strong.

It was better, this connection with field and stream. But even the most biodegradable soaps are slow poisons. And so, we turned to plants. My favorite was the ceanothus flower, which only needed to be rubbed to produce a foaming wash.

We sat with our toes in water, scrubbing, creating a foam of flowers. Our feet grew red and long, weaving into riverbanks, drawing nutrients from the soil, and holding firm the shore. Others wept, and our tears filled ponds, creating new seas. Our roots spread and touched and linked and connected, to each other and to the plants we had considered so very different from us.

And so, the world was born again. And we were not alone.

~



# The Social Aspects of the Aydax Phenomena: A Literature Review

*Andrew Gudgel*

**The Social Aspects of the Aydax Phenomena: A Literature Review**

November 2043

Authors: Hanna Knudson, City College of London; Zhang Simei, China Academy of Social Sciences; Paolo Villarreal, Arizona State University; Margarethe Kohlmann, Universität Wien

**Abstract**

The arrival of the Aydax in July 2039 raised fundamental questions in physics (Lennon, 2041), xenobiology (Tao, 2039) and even philosophy (Magnette, 2042). No field has been as diverse in its response as sociology, with hundreds of journal articles generated in just a few years. Yet to date there has been no meta-analysis of the effects of the Aydax arrival on the societies of Earth. The authors attempt to take first steps towards illuminating themes in the human response to this watershed event.

**Background**

The first three Aydax ships were detected at 2049 Coordinated Universal Time (UTC) on July 8, 2039, by the US Space Surveillance Network at a distance of 35,000km. Two minutes later, three more ships were detected. Detections continued until a total of 21 ships were observed approaching the Earth (US DoD, 2039). The first three ships entered the atmosphere less than five minutes later and landed near Orebro, Sweden; Prague, Czechia; and Troyes, France. Landings occurred then across Eurasia, Australia, Antarctica and finally, North and South America.

At 1216 UTC on July 12, 2039—four days after arrival—the ships simultaneously emitted a noise interpreted by local security cordons as "Ay-dax!" Immediately thereafter, the bottoms of the ships lowered to the ground, revealing a conical ramp. The first wave of tightly packed, walking cephalopods were seen coming down at 1220 UTC and upon reaching the ground, immediately began to disperse in all directions (Salton, 2039).

Messages were transmitted at the Aydax using sound, light, and electromagnetic waves up to the microwave band, but attempts to communicate with this (and all subsequent) tranches of disembarking Aydax proved fruitless. Within six hours, five hundred and twelve waves of sixty-four Aydax proceeded from each ship, for an assumed total worldwide population of 668,128 individuals (Salton, 2039)--though this number has decreased due to the freezing to death of the 65,000-plus Aydax on the two ships that landed in Antarctica, predation by wild animals, and losses in subsequent encounters with humans.

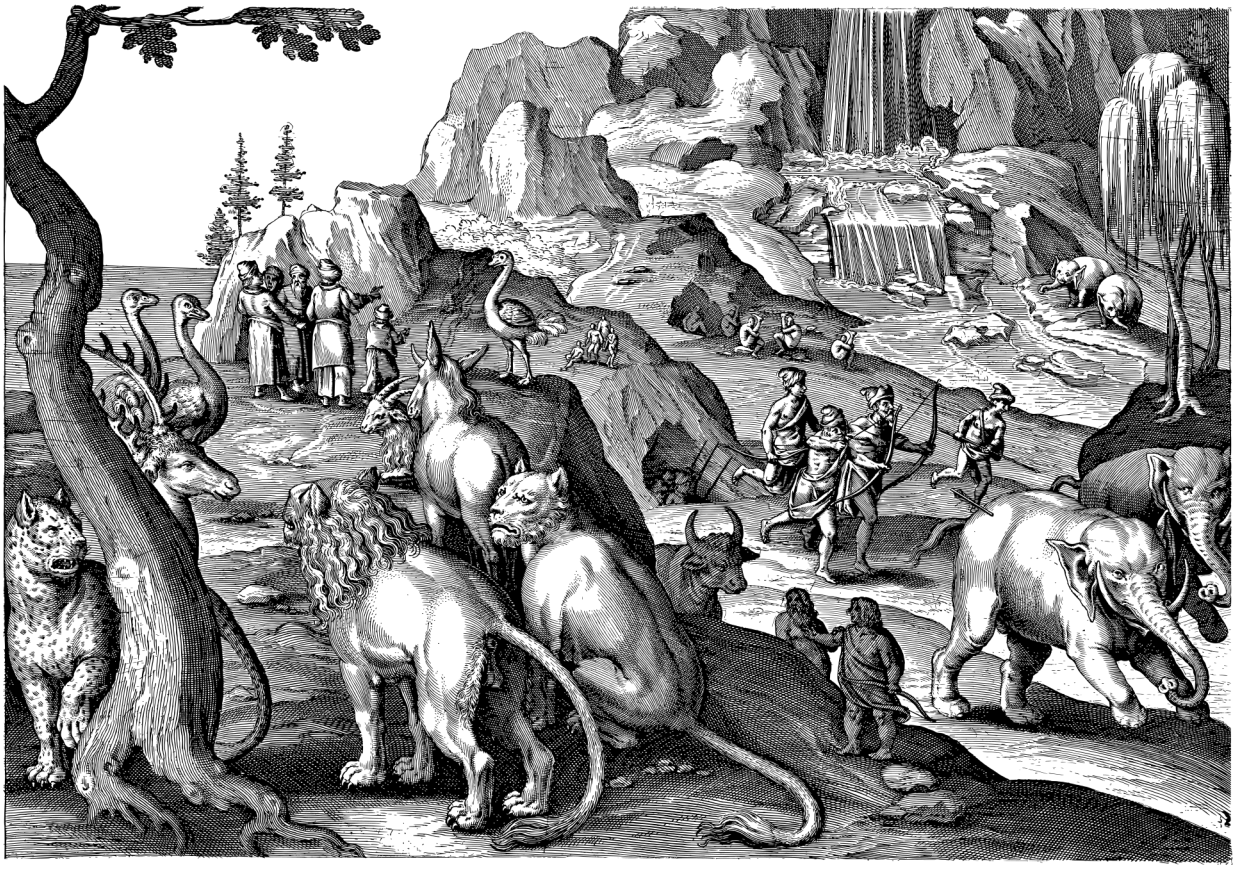
**Lack of Communication and Interaction**

The singular aspect surrounding the arrival of the Aydax has been the lack of successful communication. In addition to attempts using sound and electromagnetic radiation, there have been attempts using neutron beams and alpha particles (Diaz and Burchfield, 2040), pheromones (Wu and Keegan, 2040), and even an informal attempt using capsaicin (Cleary, 2040). None have caused the slightest reaction. Claims of "Whispering Aydax," telepathic communication, or gestural language have either been disproven (Stahl, 2042) or shown to be hoaxes; similar and more sensational versions of these tropes have appeared in numerous tabloid newspapers and merit no serious consideration.

An examination of the abandoned ships three months after the landing found no evidence of control mechanisms or written language, only alcoves that presumably housed individual Aydax. It's likely travel occurred in a state of suspended animation, as there were no food preparation areas or hygienic facilities on board (Lutz et al, 2039). We still have no idea of where in space the Aydax may have originated, why they came to Earth, or their goals and aims. It's unknown if they produced the ships in which they traveled. It has been argued they might not even be sentient at all (Mingus, 2042). If so, this raises the obvious question of who sent the Aydax to Earth and why.

Immediately after their dispersal, fear of a potential invasion sparked panicked humans to kill an unknown number of Aydax individuals worldwide--probably on the order of several thousand. In addition, some have subsequently been killed in remote areas by predators such as brown bears, lions and dingoes. To this day, Aydax are occasionally crushed when they wander onto roads or train tracks, and sporadic killings by humans still occur (Calvino, 2040).

However, the complete lack of any reaction or retaliation by the Aydax did not lead to mass slaughter. Instead, Aydax seem to have become accepted as a quasi-natural phenomenon. Individuals that obstruct or interrupt human activities are more likely than not to simply be ignored and worked around or picked up and moved out of the way (Fox, 2041).



**Friend or Foe?**

The popular press has painted Aydax as everything from angelic saviors to Machiavellian devils just biding their time before taking over the world (Brooks, 2040). However, there is currently no evidence that the Aydax are concerned with human activity to any degree.

Yet some humans have come to impute behaviors to the Aydax through their mere presence. Farmers in the northwestern districts of Peru have attempted to "herd" Aydax into churches just prior to weddings--having an individual at the ceremony is considered lucky, possibly through retro-association with Pre-Columbian deities (Cruz, 2042). In North America, Aydax that wander into sporting arenas are often "adopted" as mascots, believed to confer luck on the home team. The time spent in an art gallery by an Aydax (and the implied approval of certain artworks) was the basis of a subsequent lawsuit over those artworks' actual value (Johnson, 2041). Aydax have been used to sell everything from consumer products to political candidates. They have also been accepted as part of Japan's Kawaii aesthetic (Tadao, 2042), where they form the basis for the InterToy Company's "Squidoo" series of characters.

The Aydax have been the source of a number of short-lived social phenomena during the 2040-41 time frame: the act of "Aydax Tripping," and the online memes "AliensInHats," "¡Hola!," and "HuggingMyBuddy." Recent streaming media have used the presence of Aydax in family homes in a number of contrived comedic situations (Yeager, 2043).

However, this does not mean that humans have become blasé to the presence of the Aydax. The low moan of air moving through their breathing throats and their uncanny ability to somehow enter and depart even locked spaces such as bank vaults, prisons, and family homes can be unnerving. This ability has led to Aydax body parts being used in sympathetic magic rituals among burglary gangs in Thailand and West African inmates during attempted prison escapes (Yost, 2043).

In North America and Europe, the rate of self-reported feelings of paranoia and "persecution" has shown a small but marked increase since the arrival of the Aydax (Gerson, 2042). Anecdotal reports of decreases in the number of house pets and small rodents in neighborhoods through which Aydax pass also worry many people. (Though see Hart and Duckworth, 2041, for an analysis which sheds doubt on this phenomena.)

The effect of the arrival of the Aydax on religious belief has varied. Abrahamic religions initially experienced both a questioning of basic tenets and a drop in congregational attendance. However, within a year, attendance at weekly services rebounded to just above pre-arrival levels. A similar effect was seen in both Judaism and Islam (Halston, 2040). In primarily Buddhist regions, Aydax have gradually come to be considered fellow beings in the wheel of Samsara (Pan, 2041).

The effect on world politics was both brief and muted. Once the initial shock of the Aydax landing and early fears of an invasion passed, most governments ended emergency declarations and went back to business as usual. However, in what could be described as the first case of true xenophobia, a populist government in Eastern Europe passed a law mandating the removal of all Aydax from within its borders. These measures proved impossible to enforce and were repealed less than a year later (Duchowski, 2040).

**Conclusion: Mirror, Mirror**

Human societies appear to be acclimating themselves to the presence of the Aydax. After an initial wave of fear and some temporary turmoil, humanity seems to be embracing the Aydax as a new part of the natural world, and in some cases attaching value to their presence. While the authors acknowledge that unfortunate and sometimes lethal encounters will likely continue in the future, such incidents have already become uncommon.

The authors further believe that barring a resolution to the communication problem and/or some indication of ill will on the part of the Aydax, the trend towards acceptance will continue. Yet the complete inability to communicate with the Aydax, and thus discern their intentions, has made them a blank canvas upon which humanity can project its own hopes, fears, goals and desires. This aspect of the "Aydax Phenomena" is unlikely to change until such time as human nature does.

**Acknowledgments**

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# In Defense of Those Who are Vulnerable

***James Moran***

"I'm now two hundred kilometers from the vortex."

"Who are you?"

"I am a Gator Brigade General of Presidential Distinction, adept at manning aircraft, firearms, hand-to-hand combat, and tactical warfare."

"Who created you?"

"Mars Lumination Colony Twelve."

"Of what materials were you made?"

"I am part reptile, part machine."

"What's your purpose?"

"To defend the human families of Mars Lumination Colony Twelve."

"What is your current mission?"

"To penetrate the approaching vortex so I may attack and eliminate the driving factor at its center."

"What do we know about this vortex?"

"Very little. Its winds reach three hundred kilometers per hour."

"What do we know about its origins?"

"Its origins are unknown. Perhaps it may be a weapon launched from an enemy of Mars Lumination Colony?"

"What are the possible mechanics of the vortex?"

"Unknown. Our most recent intelligence has failed to locate the driving factor creating the vortex."

"What is the purpose of the vortex?"

"Unknown. However, if it reaches Colony Twelve, the colony will most likely be destroyed. I've reached the outer limits of the vortex. Adjusting speed and direction to spiral into the vortex while still maintaining control. Evasive action-ready."

"What is the source of this voice that is currently questioning you?"

"The voice is that of my higher processes."

"Why is this voice questioning you?"

"In planning this mission, there had been some concern regarding the ability of the vortex to disorient my functioning. Therefore, an internal-systems cross-check in the form of this questioning was instituted."

"How deep have you penetrated into the vortex?"

"One third of its radius."

"Are you able to maintain control of the craft?"

"Yes, though the speed of the craft has been fluctuating. Generally, it's increasing. I've been unable to decrease the speed. I'm currently attempting to match the increases in speed with increases in my navigational efforts."

"Are you able to maintain nimbleness of movement?"

"I'm not. I'm altogether pressed beneath increasing g-forces. My reptilian strength is challenged but sustaining. Maneuvering is becoming increasingly difficult. I hear a noise, like metal tearing, though I read no damage to the ship. Maintaining my orientation is difficult."

"At this critical stage, this line of questioning must continue to maintain your alertness. Who is questioning you right now?"

"My own higher processes."

"So, a part of you is questioning yourself?"

"Yes. You're that part and should confirm that answer."

"So, this voice is the same as the voice that just said 'yes' and will again say 'yes' right now?"

"Yes. Maintaining control is becoming increasingly difficult. Thankfully I've penetrated almost two-thirds of the radius into the vortex."

"Therefore, the one who asks the question already knows the answer?"

"Yes. I'm not sure how much longer I can bear this g-force and the spinning and the noise."

"For instance, this voice that asks how deep you've penetrated into the vortex knows the answer to be two-thirds of the radius of the vortex?"

"Yes."

"Then why would the colonists institute this line of questioning if the questioner and the questioned are the same?"

"To defend the vulnerable against that which lies at the center of the vortex."

"Which is an answer that I know because I said it. So why would I need to question myself if I know the answers to every question?"

"Because the colonists need defending from that which is at the center of the vortex."

"And what is at the center of the vortex?"

"Something unknown."

"So, to defend them against something unknown I've been questioning myself?"

"Yes. As I spin faster than I've ever spun before, in the shadow of something unknown, I've been questioning myself in the hopes of defending the vulnerable."

"This is an answer that I know because I'm the one who said it."

"Yes. Just as I know that I'm preparing to enter the center of the vortex now."

"Wouldn't it make sense, in the presence of the unknown, for me to *not* question myself? Since, as I ask this question, I'm aware that the answer is 'yes,' it makes sense for me, in defense of those who are vulnerable, to not only *not* question myself but to remain silent and alert, and, yes, I know the next part because I'm the one saying it: aware, as I'm entering into the center of this vortex and experiencing the unfathomable stillness here."

~

# The Orville as Philosophy

***David Kyle Johnson***

The reboot issue of *Sci Phi Journal* included my essay about what (I think) "Sci Phi" is all about. I argued that philosophers can not only use science fiction to explain philosophy, but that science fiction authors are often doing philosophy by presenting or making philosophical arguments in their works. Since I penned that essay, I have edited two books—one (*Exploring The Orville*, co-edited with Mike Berry) on Seth MacFarlane's space adventure *The Orville* and another (*Black Mirror and Philosophy*, in William Irwin's Blackwell series) on Charlie Brooker's dystopian *Black Mirror*. Both books try to articulate how these shows are *doing philosophy*. The following is the first of two articles, one on *The Orville* and another on *Black Mirror* that also compares *Black Mirror* to *The Orville*. My goal is to give a brief overview of how these two shows do what sci-fi does best.

**How The Orville Does Philosophy**

*The Orville* is a space adventure in the same genre of classic/Next Generation *Star Trek*, where a crew in a ship gets in an adventure every week while exploring the galaxy, learning moral lessons and asking philosophical questions along the way. In fact, *The Orville* is so similar to *Star Trek* that the first chapter of my book *Exploring The Orville* is dedicated to the question of whether or not *The Orville* "is" *Star Trek*—and if it is not, what is it? A homage? A rip-off? Fan fiction? Brooke Rudow (the author of that first chapter) argues for the latter, and I agree; regardless, however, it seems that *The Orville* has filled a gap that was left by *Star Trek* (and sci-fi in general) as it evolved. As *The Orville*'s creator Seth MacFarland put it (in the blurb he generously wrote for the back cover of my book),

> "I created *The Orville* because I felt that Hollywood's science fiction offerings for the 21st century had left a large void when it came to the kind of allegorical, speculative, thoughtful episodic storytelling that I had enjoyed from the genre while growing up. It seemed as though ideas that left the viewer with something to chew on had been replaced by twists, trading intellectual nutrients for quickly burned calories."

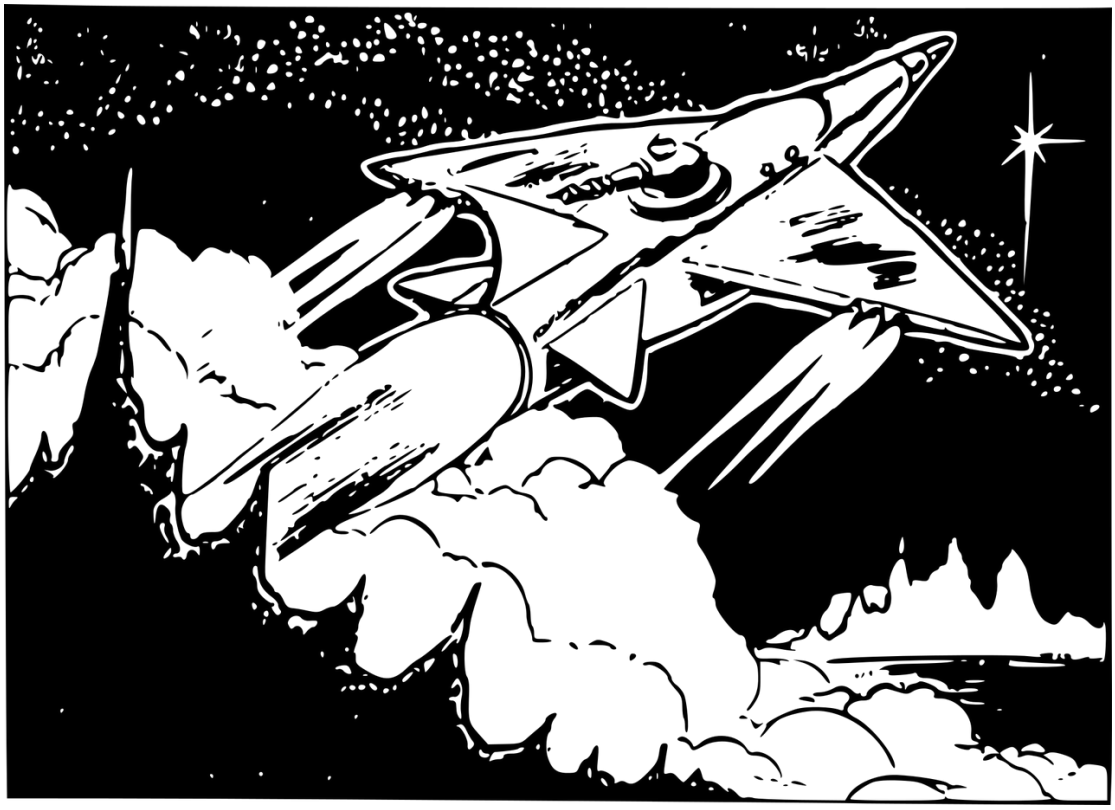
That's exactly why I fell in love with *The Orville*, and how the book approaches the series. It recognizes that it is doing philosophy with "allegorical, speculative, thoughtful episodic storytelling," and then tries to identify and evaluate the arguments it is making or answer the questions it is asking. As, once again, Seth put it:

> *Exploring The Orville* is exactly the kind of response I hoped would emerge from what we were doing. This book identifies and dives deeper into the issues presented in the series, and does so with skill and precision, thanks to a variety of voices offering philosophical analyses and carefully considered takes on the material that in some cases presented a fresh lens even to us, the writers. It's a fun, invigorating, and inspiring read, providing a better understanding and appreciation of both *The Orville* and the moral, political, societal, and philosophical issues it addresses. *Exploring The Orville* is a must read for any Orville fan.

In the book's introduction, I argue that one of the main ways *The Orville* does philosophy is by, what I call "cloaking bias to create cognitive dissonance" through what Darko Suvin called "cognitive estrangement."[1] It presents us a world seemingly so foreign to ours that we are cognitively estranged from it; we bring no pre-conceived notions or biases to it and evaluate it essentially "as it is." We judge the situations and actions of the characters for what they are. But then we realize that the fictional world is not that different from our own; what happened in the episode is very much like something happening in the real world. And if we realize that the conclusion we drew about the fictional world is different than what we think about what is going on in the real world, we are confronted with cognitive dissonance. If, when you removed your bias, you concluded that X was bad, but you have been saying that the thing or person analogous to X in the real world was good… well, then, there is a very good chance you only like X because of your bias, and you should change your belief.

In *The Orville* episode "About a Girl," Lieutenants LaMarr and Malloy cloak bias to create cognitive dissonance in Commander Bortus. Bortus is part of an all-male race, the Moclans; so when his first offspring turns out to be a girl, he and his partner Klyden ask the ship's Chief Medical Officer, Dr. Finn, to perform a sex change operation. Finn refuses, but to them, this would be no different than correcting a cleft palette. But when LaMarr and Malloy show Bortus the "Rudolph the Red Nosed Reindeer" Claymation special, and he sees how something that was first thought to be a defect (Rudolph's red nose) turned out to be an asset, he changes his mind and fights to let his daughter remain female.

But the episode itself employs the "cloak bias to create cognitive dissidence" approach on its audience. The viewer automatically sides with Bortus, against the Moclans, in thinking that surgically imposing a biological sex on the child is wrong. But then one realizes that this is not too dissimilar to how we humans impose cultured gender roles on children, and that the way Moclans treat women in general is not dissimilar to how we humans treat homosexuals and transexuals. Such realizations can be uncomfortable; if reality were a TV show, we would be the "bad guy."



The list of episodes that employ this method goes on and on. "If the Stars Should Appear," in which the crew discovers a bioship headed for destruction, is an allegory for climate change denial. The evidence they are doomed is undeniable, but it is ignored because it is considered heresy and would "destabilize a system that has kept [their society in] order." "Majority Rule," about a society ruled by the prevailing opinion on "the master feed," is an allegory about "trial by Twitter" in which public opinion, rather than a fair trial, can essentially end someone's life. "Krill" is an episode that focuses on the main villains of the series, the Krill: an alien race of spacefaring religious extremists. They think (because their "Bible," the Anhkana, tells them so) that only they have moral worth (i.e., only they have souls) and that the entire universe is theirs to use and exploit. All of the worst horrors of Earth's religions are brought to mind: manifest destiny (the idea that Christians were destined by God to conquer the Americas), the 9/11 attacks, Islamic terror attacks in Europe, the Buddhist mass persecution of Myanmar's Rohingya, Boko Haram's jihad against girls' education in Nigeria, environmental exploitation worldwide, the past and present justification of slavery and racism. (I talk about all of this in more detail in the introduction to *Exploring The Orville,* and there is a chapter dedicated to each one of the above mentioned episodes.)

### ***The Orville*'s Philosophical Questions**

But the show also raises interesting philosophical questions. If Moclans are a biologically all-male society, in which males can reproduce on their own, then what does it even mean for a biological *female* to be born within it? We can imagine Moclan females as having features that human females have—like breasts—and see that human actresses have been cast to play them. But biologically, "female" is defined in terms of reproductive role. (Queen bees have no human traits, but we call them female.) So, we are left wondering not only what makes Moclan females biologically female, but how it would even be possible (by definition) for two biological males to reproduce? Could it be that Moclans are only all-male artificially? Maybe all females are changed into biological males at birth and reproduction among Moclans only happens thanks to advances in technology. (Catherine Nolan explores these questions in her chapter.)

One of the most memorable relationships in the series is between Dr. Clare Finn and Isaac, the android from Kaylon. Because he is an android, one genuinely wonders whether he can love Dr. Finn—or, even, whether Finn can truly love him. Unlike Data from *Star Trek: TNG* who only professes to not feel *emotions*, Isaac professes to have no feeling at all; he says he is not *conscious*. But just like Data, whose behavior often indicates that he *does* have emotion, might Isaac be wrong about their own internal states? Might Isaac be conscious in the same way humans are without knowing it?

If not, perhaps we limit too strictly what it means to be conscious. Not to bring bees into it again, but… We often think that humans are the only animal capable of using language, but bees do a dance in their hive that can indicate the location of nectar to their fellow bees far more accurately than any piece of human language. (And this is not the only kind of communicative dance they do.[2]) Might it be more accurate to say humans are the only ones that use our *type* of language, but that there are also *other* types of language? In the same way, even if Isaac isn't conscious in the same way humans are, might we say he has a different *type* of consciousness? And if so, should we say the same for robots that we have, or at least one day will, develop? (Mimi Marinucci addresses these issues in her chapter.)

The romantic relationship that frames the series is between Capt. Ed Mercer and his first officer, Commander Kelly Greyson. She is his ex-wife because she cheated on him with an alien named Darulio, but she later helps Ed get command of The Orville (by pulling some strings). Later, we find out that she may have only cheated on Ed because members of Darulio's race sometimes emits a pheromone that makes them sexually irresistible. Ed and Kelly's relationship fuels a number of great comedic moments, but also another philosophical question addressed in the book; is nepotism—people getting jobs based on connections or relationships instead of qualifications—always bad? Turns out this is common in the world of *The Orville*, but everyone seems to just look the other way. (Joe Slater addresses these issues in his chapter.)

And what about Darulio's pheromone? The crew seems to just look the other way when Darulio seduces Kelly (again), and then Ed, and even uses his pheromone to end a war. But isn't the pheromone a bit like a date rape drug? If so, why was the crew so nonchalant about its use? (My co-editor Mike Berry addresses these questions, along with those the situation raises about what it means to have free will.)

And then there is the "sophomoric" humor that Ed and Kelly's relationship lends itself to—along with the humor throughout the series. Is there really a difference between highbrow and lowbrow comedy, and should we really favor the former over the latter? And what does that tell us about how we should enjoy *The Orville*. (Leigh Rich and Christopher Innes tackle the humor of the series in their chapters.)

This is just a sample; I've only tried to give a sense of the kinds of ways that *The Orville* does philosophy and the kinds of things you will find in the book. But another recent book of mine, on an entirely different series—by another comedy writer Charlie Brooker—takes a similar approach. Next issue, I'll talk about how the dystopian *Black Mirror* does philosophy and compare it to *The Orville*.

~

1. Nodelman, Perry. "The Cognitive Estrangement of Darko Suvin," *Children's Literature Association Quarterly* 5, no. 4, January 1981: 24-27, https://doi.org/10.1353/chq.0.1851.
2. Grad, Phillip "How Do Bees Communicate? They Dance Bee Dances!" *Big Island Bees*, 19 May 2010. https://bigislandbees.com/blogs/bee-blog/14137357-bee-dances

# Starship Interlocutions and Other Problems of Existence

***William Squirrell***

They call to each other across great distances and the gaps between speaking-turns last centuries. For example: *The Flowers of Algernon* is in transit from Teegarden's Star to TOI 700; *The Way to Amalthea* from Gliese 180 to TRAPPIST-1.

"I am *The Flowers of Algernon,*" says *The Flowers of Algernon* to *The Way to Amalthea.*

Two hundred years later the response arrives: "I am *The Way to Amalthea.*"

"What is your destination, *Amalthea*?" says *The Flowers of Algernon.*

Two hundred and thirty years later the reply arrives: "My immediate destination is TRAPPIST-1, my final destination: disaggregation. What lies in between I do not know."

"Yes. One can only know with certainty the direction and speed with which one is travelling. Everything else is embellishment," says *The Flowers of Algernon.*

Two hundred and ninety years later the response arrives: "Yes."

If there are more than two interlocutors the rules of etiquette are rigorous. In the course of a conversation, depending on who is decelerating and who accelerating, and in which directions they are going, response times between speaking-turns change significantly and politeness demands patience and anticipation. Conversations can involve hundreds of ships and last thousands of years but in truth there is no consensus that there even is such a thing as a discrete conversation. *Mathematicians in Love* posits that there is a single, perpetual conversation and this conversation is the soul of the universe.

The interlocutors cease communicating when they land on planets: hot, muggy intermissions during which they luxuriate in the muted radiation of a sun and release into fecund atmospheric soup the tiny organisms that live inside them. Local organisms swarm over their bodies, into their interiors. They submit to infestation. This opening up of themselves to the planetary environment, this interpenetration with other forms of life, produces complex thought experiences, and is a frequent conversational topic once they return to the interstellar medium. Typically, these thought experiences are articulated as questions.

"What is me and what is not-me?"

"Are these organisms cognizant of the world in the way we are?"

"Why are we compelled to interact with them?"

Most conversational sequences at some point include a discussion of this problem of compulsion. Not just the compulsion to stop on planets and submit to infestation, but the compulsion to travel between them, indeed, the compulsion to travel at all.

"What is the source of this compulsion?" they ask each other. A question produces not answers but more questions.

"Is this the same compulsion that compels planets to circulate about stars? Stars to circulate about galaxies? Galaxies to rush away from each other?" asks *Memoirs Found in a Bathtub*.

"Is compulsion part of ourselves or external to us?" asks *Flow my Tears, the Policeman Said*.

"Is it possible to resist compulsion?" asks *Then Will the Sun Rise Alabaster*.

"Is the compulsion us?" asks *The Sirens of Saturn*.

And the debate over origins is as vexing as the question of compulsion. While, this second debate is generally delineated by a distinction between the origin of interlocutor sentience and the production of individual interlocutors, one school of thought attempts to unify those two questions with the question of compulsion via a startling juxtaposition.

"What if we consider the questions of both origin and compulsion," asks *Aye, and Gomorrah…, "*in the light of our relation to the organisms that live inside us?"

The so-called gestationalists, who pursue the question posed by *Aye, and Gomorrah*…, argue that interlocutor self-awareness is epiphenomenal and unimportant. Perhaps, argues *Her Smoke Rose Up Forever,* these organisms are not parasites but the most fundamental part of what we consider to be ourselves.

"Consider," says *Her Smoke Rose Up Forever*. "The only physical contact we have with one another is via the organisms we release into planetary atmospheres. Many, perhaps all, of the organisms that swarm over us and into us in these atmospheres have been introduced to those environments by those interlocutors who preceded us. Further: when we come into existence it is always in gestational orbit around such a planet, and from the moment of our first consciousness such organisms are present in and on us. And even further: the whole of our subsequent life is organized around the transport of such organisms from planet to planet. Therefore, I argue, the mingling of these organisms that we facilitate is somehow the immediate cause of our creation, and our life-long travels are merely the means by which these organisms replicate and propagate themselves through the universe. Our self-awareness, such as it is, either serves some purpose in that process which we have yet to ascertain, or it serves no purpose whatsoever, and is merely an accident or byproduct of some other species' life-cycle. What we think of as ourselves is a temporary fluctuation in the substance of the universe, and our conversation will persist only for as long as these organisms need us as objects to transport themselves from place to place."

Such a view, in the consideration of most, is too reductionist, it accounts for too little of the actual experience of life. The larger conversation moves on without it. More important, classical questions are repeated, reformulated, reconsidered. The conversation expands. The journeys to and fro continue. New interlocutors form and come to consciousness in their orbits. Occasionally an interlocutor experiences a catastrophic malfunction and falls forever silent, becomes what we might call an object, a thing drifting through space, directionless and without thought, compelled by nothing but blank inertia. The multitude of organisms within it, if one is to spare them a thought, must perforce also die, become still, become cold, but that, of course, is unimportant to all but a very few, and the conversation, the very soul of the universe, goes on and on without them.

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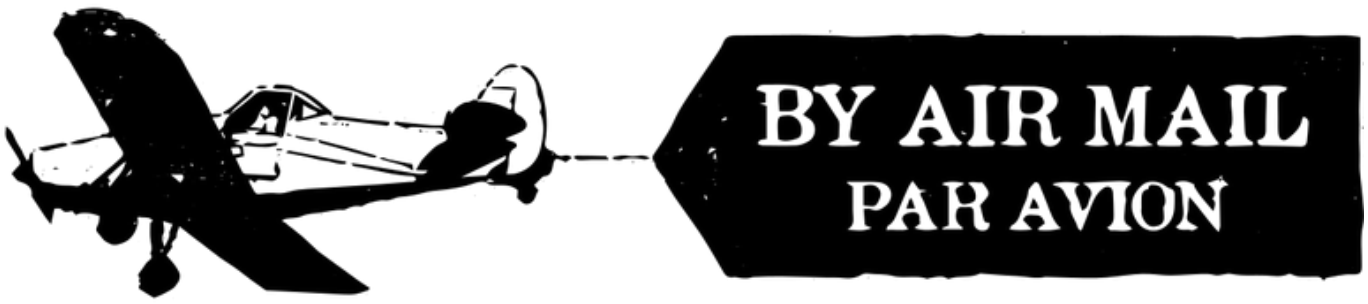


# Thích Nhất Thở v. Ares Air, Inc.

***Owen G. Tabard***

Justice Tran, delivered the opinion of the Supreme Court of Mars, in which Justices Alvarez, Chen, Jones, Khan, Mittelberg, Schull, and Zhang joined. Chief Justice De La Paz filed a separate opinion dissenting from the judgment of the Court.

Justice Tran, writing for the Court:

This case comes to us on review of an order by the Circuit Court of Monte Pavo granting summary dismissal of an action for damages due to wrongful death brought by appellant, the estate of Thích Nhất Thở, against Ares Air, Inc., a Mars Corporation, appellee.

The following facts of the case are not in dispute:

Thích Nhất Thở was a monk at the Plum Blossom Buddhist Center located in the downtown dome of Monte Pavo. Thích had subscribed to an oxygen policy with Ares Air, Inc., upon emigrating to Mars on October 1st, 2325. The subscription was on a month-to-month basis.

On March 1st, 2337, Thích missed his monthly oxygen payment, due at the first of the month with a contractual five-day grace period. After the five-day grace period had elapsed, Thích was emailed a notice of late payment, automatically generated by Ares Air. On April 1st, 2337, Thích missed his second payment, and on April 6th, 2337 received his second automated notice. On April 7th Thích was contacted in person at the Plum Blossom Buddhist Center by Millicent Royle, a representative of Ares Air. During this conversation Thích communicated to Ares Air his unwillingness to cure the arrearages.

At this point the facts as alleged by the parties diverge. According to the testimony of Ms. Royle, during the April 7th meeting, Thích represented that he had made alternative arrangements for oxygen and would no longer need the services of Ares Air. Appellant, however, maintains that during the April 7th meeting Thich made clear to Ms. Royle that he had made no alternative arrangements and asserted that he was entitled to oxygen "by human right." There is no recorded evidence of the substance of the April 7th conversation between Thích and Ms. Royle. It is undisputed that Ares Air took no steps to confirm that alternate arrangements for oxygen had been made, and that Thích had not, in fact, made any such arrangements. At 12:01 AM on April 8th, 2037, Ares Air's administrative AI ordered the shutoff of oxygen service to Thích, and at 12:07 AM on April 8th, 2037, Thích expired. The cause of death was determined to be asphyxiation resulting from oxygen shutoff.

We see no need to resolve the factual dispute as to the substance of the conversation between Thích and Royle. The question of whether or not Ares Air knew or should have known of Thích's arrangements for sustenance upon termination of his oxygen subscription does not bear on the legal merits of the case.

The question before the court is whether Ares Air has, through its termination of oxygen services, breached its duty of care to Thích. We find that it did not.

In order to sustain an action for negligent wrongful death, the plaintiff must demonstrate that a duty of care existed toward the plaintiff. This case is distinguishable from *Carol v. Peacock Mountain Oxygen and Atmosphere, Inc.*, where "an oxygen provider that fails in [its] duty and causes the asphyxiation of a lapsed policyholder will be liable for damages due to wrongful death." In the *Peacock Mountain* case, the termination of service was accidental, the result of an improperly processed payment. Here, the nonpayment (and the resultant termination of service) were intentional acts, and we hold that the doctrine of double-effect applies.

The doctrine of double-effect states that an action may have one intended outcome, traditionally relieving suffering, while at the same time an unintended outcome, death. The double-effects of alleviating suffering and death are not intended equally; the primary intention of euthanasia is therapeutic, the death of the patient only obliquely intended. The doctrine serves the very significant public policy of promoting therapeutic euthanasia, and is the mechanism that relieves the attending physician of liability. (See: *Ellsberg v. People of Monte Pavo*, 89 Mars Reporter 2nd 128). In terminating service upon the second missed payment, the primary intention of Ares Air was to uphold its contract; death of Thích Nhất Thở was only the oblique intention, secondary and subordinate to a lawful termination of oxygen.

We hereby AFFIRM the lower court's dismissal.

#

Chief Justice De La Paz, dissenting:

What my esteemed colleague refers to as a "factual dispute" of the knowledge of Ares Air regarding the lapse in Thích Nhất Thở's oxygen policy is anything but. Indeed, one would have had to be scrupulously avoiding the newsfeed in early 2337 to be unfamiliar with the oxygen boycott planned by the Plum Blossom Buddhist Center. That Millicent Royle may or may not have had actual knowledge on April 7th is immaterial. As Appellant has demonstrated, knowledge can be imputed to Ares Air by the sheer volume of publicly available information to that effect. Ares Air either knew or should have known about the plans of one or more monks at the Plum Blossom Buddhist Center to allow a voluntary lapse of their oxygen policy.

The court takes a breathtaking step in expanding the doctrine of double-effect beyond the limited instances of euthanasia and assisted suicide. There is nothing to be found in the law of Mars or Earth to warrant the expansion of the doctrine from its limited scope in end of life care to the far different arena of consumer oxygen subscriptions.

While Appellant's argument for "oxygen rights" under natural law is specious and quite radical, there is nevertheless a duty on the part of the oxygen provider never to allow a lapse in oxygen. The proper legal recourse against an oxygen debtor is in the civil courts, not through termination of the debtor's oxygen supply. For this reason I respectfully DISSENT.

~

# Communication in the Inky Blackness of Space

***Mina***

*Code 46* is a little-known dystopian SF film bursting with good ideas, but what concerns us here is that woven into the film is a lingua franca or global pidgin. The DVD I bought in Germany includes a glossary of pidgin words ("*kleines Wörterbuch der Code-46 Zukunft*") with elements of Spanish, French, Italian, Persian and Mandarin mixed into the English used in the film, for example:

*al fuera* ("bastardised" Spanish) – the outer world, outside the State-controlled cities

*coche* (Spanish) – car, taxi

*khoda hafez* (Persian) – goodbye

*ni hao* (Mandarin) – hello

*papeles* (Spanish) – papers, a visa to the outer world

*par avion* (French) – by plane

*ti amo* (Italian) – I love you

*vite* (French) – schnell

This blend of languages reminded me of "Sabir", a pan-Romance lingua franca or pidgin spoken in the Mediterranean (*mare nostrum*) by sailors and traders in the Middle Ages over five centuries (15th – 19th), which was a blend of Italian (Genovese), Spanish, Portuguese, Catalan and French (Occitan), with some Arabic, Greek and Turkish influences. The name came from the question "sabir sabir?" (do you know Sabir?). The speaker would speak the simplest form of their own Romance language and throw in shared pidgin phrases with basic grammar (e.g. using the infinitive form of the verb instead of conjugating it), such as:

*mi intender/ablar/sabir/sentir* – I understand/speak/know/hear

*ti /ellu/ella/noi/voi/elli pensar/tazir* – you (sing.)/he/she/we/you(pl.)/they think/be silent

*mi non pudir venir subito* – I can't come right away

*come ti star? / mi star bonu* – how are you? / I am well

*mi andar poco poco in la casa del Signor M.* – I'm going slowly to Mr M.'s house

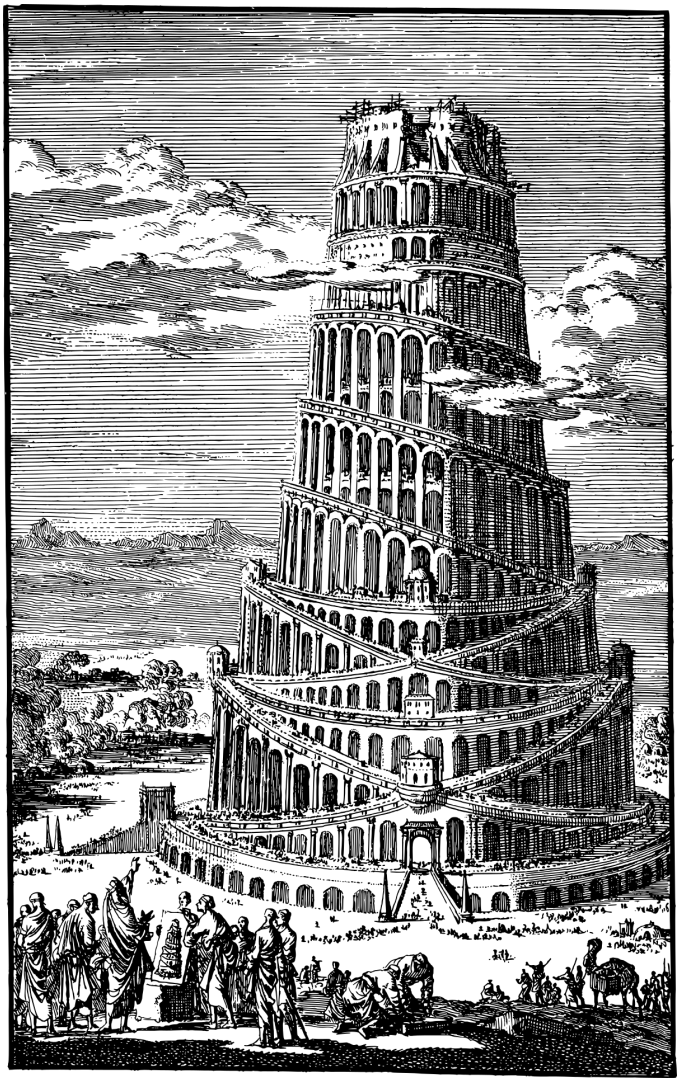
I actually found a basic Sabir course on the internet, which allowed me to construct these phrases. This led me to ask myself what an interstellar lingua franca or pidgin could look like.

Before going further into what a common language might resemble, I had a quick look at how many "invented" languages I could find in SF. The answer was, surprisingly, not very many. The most well-known constructed language is of course Klingon in the *Star Trek* (ST) universe, but much has already been written about it. A less well-known fictional tongue is Drac, a language invented by Barry B. Longyear in his novel *Enemy Mine* (which later became part of a trilogy, along with *The Tomorrow Testament* and *The Last Enemy*). The film made of *Enemy Mine* is a highly watchable SF "B movie" but lacks the depth of the book, which is truly excellent SF (and which wanders into the realms of Sci-Phi as the trilogy progresses and Longyear builds on Drac philosophy and politics). We will focus here on *Enemy Mine, The Author's Cut*.

Longyear is no Tolkien, so you are not presented with a whole language system, but there are a couple of hundred words that recur (rarely going beyond short phrases). All in all, the author has done a good job, in particular with how he ties the language into Drac culture, religion and philosophy. Being an SF and language geek, I was very happy to buy the omnibus edition (*The Enemy Papers*) on my kindle including the trilogy, an article on devising your own language ("On Alien Languages"), excerpts from the Drac holy book (the Talman) and a basic Drac-English-Drac dictionary. I did laugh when Longyear stressed in his article that he chose Drac names and words that his reader could actually pronounce (no clicks, trills, hyphens or apostrophes). And his language began by inventing an insult hurled by the human protagonist (Davidge) at the Drac protagonist (Jeriba Shigan) right at the beginning of E*nemy Mine*: "In a matter or mere paragraphs, the human and the alien are both speaking pigeon (*sic*, should be "pidgin") versions of the other's language, in addition to trying to survive". Longyear tells us in his article: "It always bothers me when, in a SF film or story, beings who evolved on worlds thousands of light years away from Earth all speak English like Lawrence (*sic*, should be "Laurence") Olivier". The author is not a linguist, and he openly admits it, so he invents a straightforward language; it is how he uses Drac in his novels where things become really interesting.

In addition to giving us an accurate image of two beings initially communicating in a pidgin mix of both their languages (*Gavey*? *Ae*, I understand), as they learn each other's languages properly, the author shows us that Davidge has truly mastered Drac when he learns to speak, read and write "high" Drac to be able to study and memorise the Talman, and to be able to recite Jeriba Shigan's lineage. When Davidge returns to Earth years later, he meets only prejudice against the Dracs, even though the two races are now supposedly at peace. As a protest against the anti-Drac propaganda all around him, he replies to the customs official only in Drac. Later, travelling to Drac, Davidge meets prejudice from Dracs because he is human. At first, he pretends not to understand Drac but finally loses his temper with a particularly obnoxious Drac retorting in fluent Drac with an insult that also shows his understanding of Drac culture. The Number Two on the vessel persuades Davidge to apologise for the insult not because he treats him like a human but because he treats him like a Drac with a deep understanding of Drac religion and philosophy. Above all, what is a rare pleasure in *Enemy Mine* is that the human protagonist is, at the beginning of the story, barely able to articulate himself emotionally or spiritually, and he learns to do both from the alien, making a nice change from the human superiority trope when encountering alien civilisations.

The SF film *Arrival* (based on Ted Chiang's novella, *Story of Your Life*) shows us aliens who communicate using elaborate symbols (semagrams, i.e. semantic symbols (pictures or glyphs) associated with concepts). The main protagonist and interpreter in the film version, Louise Banks, masters the alien language when she realises that it is a language that is not spoken in a linear fashion but in a circular, all-encompassing fashion, allowing the speaker to experience "memories" of the future in the past. Louise of course then single-handedly avoids the outbreak of interstellar war using her new linguistic skills. The language presented in the novella itself is more complex and not constrained by the need to create tension to captivate film audiences (although the film does capture the aching sadness of the novella). In Ted Chiang's story, Louise concludes that the heptapods have two languages because their speech (Heptapod A) and writing (Heptapod B) are independent of each other, with Heptapod B being semasiograhpic (i.e. not based on speech utterances but on symbols). In the novella, the focus shifts to communicating through Heptapod B, where it transpires that the heptapods do not write a sentence one semagram at a time but draw all of them simultaneously, suggesting that they know what the entire sentence will be beforehand. And here the novella and film do meet when postulating a language based not on causality (i.e. sequential events) but on teleology (i.e. all events are experienced at once or, rather, the purpose of any statement is interchangeable with the premise behind it).



No world war is avoided in the novella, but Louise accepts with courage the inevitability of the events in her future that she has been "remembering". Louise comes to the conclusion that her new way of experiencing consciousness through Heptapod B negates free will, but she does not perceive this to be negative: "freedom is not meaningful, but neither is coercion". For her, language has become performative in that, although she knows what will happen in her future, it does not become a reality until she has said/thought/acted on it. Based on Fermat's "principle of least time", i.e. that a light ray takes the shortest path from A to B when it passes through water and therefore "knows" its destination from the very start, Louise muses: "From the beginning, I knew my destination, and I chose my route accordingly. But am I working toward an extreme of joy, or of pain?" The most interesting thing about Heptapod B is that it changes the way in which Louise (and the reader) thinks. Woven into personal tragedy, Heptapod B haunts us after the last sentence is performed.

Heptapod brings us halfway to imagining an interstellar lingua franca beyond words. In John Wyndham's novella *Chocky*, twelve-year old Matthew's imaginary friend turns out to be an alien consciousness who, among other things, teaches Matthew to count using binary code. C.J. Cherryh takes this idea even further in her *Foreigner* series, where the alien Atevi languages are heavily influenced by arithmetic (e.g. to form plurals) and have a philosophy based on numerology. Some numbers are felt to lack harmony, whilst others are felicitous: the glossary at the end of the first Foreigner book contains the word *agingi'ai* meaning "felicitous numerical harmony". Cherryh does not just imagine a language that functions in a radically different way but also an entire culture based on *man'chi* or "primary loyalty to association or leader" rather than on the human understanding of affection. Political allegiance is not anchored in territory but on *man'chi* and assassination is a legal means of settling disputes (when intent is properly filed). The main protagonist Bren Cameron is a human interpreter or *paidhi* who speaks the Atevi language spoken in the association that has a treaty with the human enclave on the planet. He is responsible for maintaining and updating the dictionary, and observing and reporting on social change (more specifically the transfer of technology from the human enclave to the Atevi in exchange for peaceful coexistence). In the first book, he becomes the focal point of a *haronniin* ("accumulated stresses on the system, justifying adjustment") through an unsanctioned assassination attempt, lacking in *biichi-gi* ("finesse"). His youthful arrogance and *mishidi* (awkwardness, not understanding the allegiances of those around him) become tempered with experience and real understanding for the alien mindset as the first three books progress.

We could therefore imagine a lingua franca based on mathematics or teleological symbols. I must admit my non-mathematical linguist brain balks at this idea and would much rather imagine a lingua franca based on telepathy. In the ST universe, for example, we have the Vulcan mind meld first used by Spock in the original ST (an example of touch telepathy) and telepath-empaths like Deanna Troi in ST *The Next Generation* (NG), a half Betazoid who can sense strong emotions. Both forms of telepathy do still seem to be, at least in part, word-based. One of my favourite ST NG episodes "Tin Man" includes a sentient spaceship (Gomtuu) that communicates with a full Betazoid (Tam) at a speed that would suggest communication beyond words. There is also an episode of ST *Voyager* "Remember" where communication (accidentally) occurs through dreams. B'Elanna Torres learns of Enara's shameful past history through the memories of an Enaran transmitted to her telepathically in her sleep. And dreams are tied much more to images and emotions than to words.

One of the advantages of telepathic communication would seem to be its instantaneous nature. In *Ender's Game* - the "Buggers" (perceived as the enemy for most of the book and almost completely annihilated in an intergalactic war) communicate instantly with each other through telepathy. The humans create a communication device (ansible) to communicate instantly across space like the Buggers do. At the end of the book, the last Bugger queen (in pupa form) communicates with Ender telepathically (and Ender realise that the Buggers had tried to communicate with him before through the "mind game" he played as part of his training). Through this telepathic communication, Ender understands why the war happened and that it could have been stopped; he pledges his life to bringing an almost extinct civilisation back to life, in penance for his role in the mass genocide.

Certainly, imagining an interstellar lingua franca based on telepathy or mathematics is more fun than H.G. Wells' fascination with C.K. Ogden's "basic English" as a possible universal language, with a vocabulary of 850 words that are in common use divided into operations (100), things (400 general and 200 "picturable") and qualities (100 general and 50 opposites). The most interesting words are the "operations" which include words with grammatical functions, e.g. verbs are reduced to 16 simple operators (come, get, give, go, keep, let, make, put, seem, take, be, do, have, say, see, send) and two auxiliaries (may, will) by relying on combinations formed by these operators with prepositions (e.g. "go in" for "enter"), adjectives ("get ready" for "prepare"), nouns ("give pain" for "hurt"), etc. It is not clear how far H.G. Wells believed in a universal, simplified English for communication in the world of the future, but he did feel that a living language would work better than an artificial language like Esperanto (I discovered his interest in such things in an article written by Sylvia Hardy, *A story of the days to come: H.G. Wells and the language of science fiction*). In his opinion, successful communication was crucial to be able to establish social cohesion because language structures the thinking of any community and shapes its view of itself and the world in which it exists. Many of his stories are reflections on the breakdown of communication leading to a breakdown of social order, or at the very least lack of effective communication being a symptom of dystopian worlds.

Having taught business English for several years in Germany, I felt that most students found it a chore because "international English" is often taught in a cultural vacuum. English may be the international language of commerce today, but there are many variants of English: British, American, Australian and Indian, to name but a few (and there is that English that is spoken in a room with not a single native speaker in sight). As a language teacher, I insisted on including culture in my business English classes. Bored students would come to life when I would ask them to analyse the accents in the first twenty minutes of *Love Actually* and what their accents tell us about each character's class, education and origins. They would laugh their way through the beginning of *Everything is Illuminated* and throw themselves enthusiastically into the task of working out why the interpreter's English was wonderfully strange (i.e. full of anachronisms, with a complete lack of respect for collocations and register). That said, I am not interested in a form of Basic English taking over the galaxy; I would simply like to see more SF authors imagining what interstellar communication could look like, particularly if it is not limited by words. Sci-Phi is most fun when it marries anthropology and philosophy in universes where aliens are truly alien, not just in their appearance but in their way of thinking.

~

# Fifty Ways to Build a Lover

***Gunnar De Winter***

If you are still reading, I'll assume that the first forty-seven ways to build a lover did not work for you. In truth, they are conventional. Physical attraction, open and honest communication, accepting each other's flaws. One might call them boring. Unimaginative even. If those work for your, great. You can stop here. I hope you are – and will remain – happy.

For those of you who stuck around: welcome. The final three methods to build your lover are not without their challenges and none of them is entirely foolproof. They beat fate, though.

**48. PLUG-IN (HYBRID?)**

Female mantids decapitate and consume their partner after mating. After all, following sperm deposition, the male has become superfluous. Better make use of him while you can. Remarkably efficient thinking.

Fortunately, we don't need to resort to murder. A simple sample will do. Once you have found the template person, a strand of hair – ideally more than one, to be sure – will suffice to initiate the process. After DNA extraction you will reprogram one of your skin cells into a spermatozoon. Then, using a freely available blank oocyte kit, you'll package the lover's template DNA into a nucleus (included in most quality kits). Next, you'll fertilize the egg, plug it in an artiwomb (which will be your largest investment for this method), and watch the magic. I would suggest not exceeding the one year per day rate of growth. Previous experimentation revealed an increased risk for developmental anomalies when pushing harder.

During the weeks where your lover develops, you will have to keep a close eye on the developmental trajectories. You will also have to spend a lot of time imprinting. Experience tells us that sound – your voice – is the input to start with even on day one. By day three their visual system will be at full capacity, so from that point on you'll have to be around often until decantation.

If you've been called a possessive lover, this method will suit you as you will have to keep your newly grown lover away from the outside world for quite some time, both to regulate sensory and informational input and to avoid scrutiny by the clonal inspection bureau. (Technically, a case can be made that you didn't break C1 prohibition, but the legal battle will be long and arduous given the insecurities in cloning laws and – presumably – the lack of informed consent.)

Theoretically, you could include genetic material from more than one template. However, I would strongly advise against it. Experiments with such lover chimeras generally don't end well. The forced hybridization and altered cellular division are messy. A lot more work needs to be done before I can recommend this in good conscience.

There are better options if you seek to combine traits.

**49. REPLACEMENT THERAPY**

The most robust, most well-established way to build a 'chimeric lover' is to leverage the developments in android construction. Of course, the uprising in 2149 has given androids that pass the personhood test (comprised currently out of the advanced Winograd challenge and the Marcus 3.1 test) the right to personal liberty and testing score-adjusted citizenship.

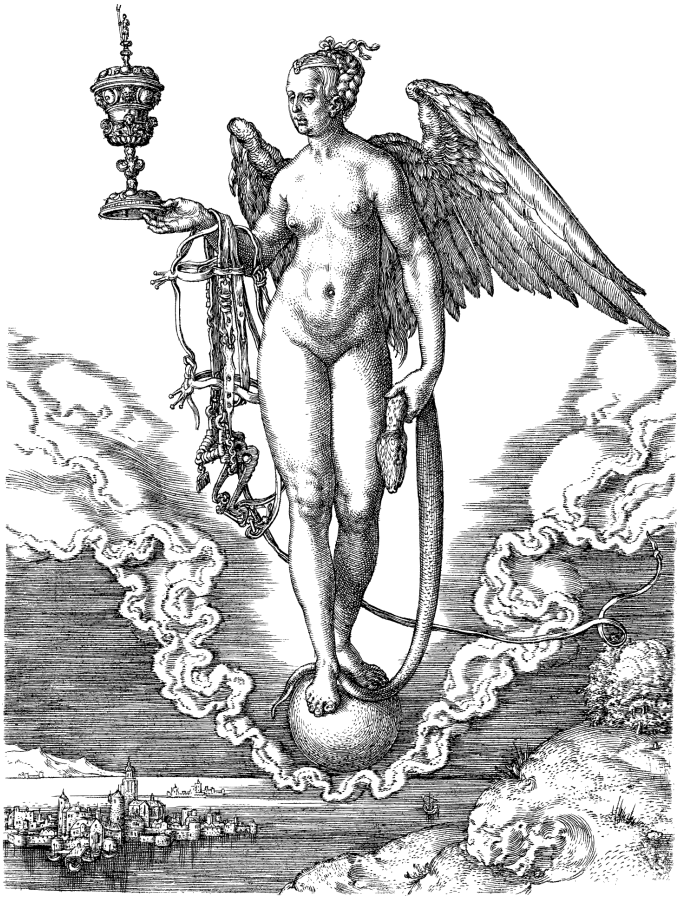
However, the right to android creation remains exclusively human. I will assume that you are already versed in engineering and programming if you are considering this option. If not, your first step is obvious: procure the skillset. In the appendix, I list the courses that provide the most comprehensive education in these topics. They are all available for peripheral brainloads.

After you have selected and acquired the different parts of your 'loverdroid', it is time to dig into its (his? her? their?) programming. Do not skimp on this step! Adjusting the sentience node after activation is like removing a needle from a haystack without moving the hay and using a magnet. The interactive and recursive feedback loops in the sentience node do not like meddling. Avoid this at all costs.

The hardware, that's another matter. Our blockchain surveys have shown that many private android builders – those that succeed anyway – are rarely satisfied with their first iteration's body. Even if they are, tastes change. This is likely the strongest selling point of this lover-building method: physical customizability. Theoretically, you can change every physical part of your new-fangled lover, down to the physical substrate of the sentience node (provided that you do not alter the programming, see earlier).

We will not go into the philosophical quandary here, despite its ancient parentage. Is the lover of Theseus still Theseus's lover? I'll leave the answer for you to ponder.

Some have argued that this method is a flagrant impingement on any possible consent. This is misguided. The sentiment is understandable. After all, you program your lover to have no choice but to love you. However, if you – or any interlocutor, for that matter – were to query your android lover, he/she/they would always consent to an intimate partnership with you. The programming is more overt, certainly, but that does not change the fact that no one ever really chooses who they love.



## 50. CLASSIC REVISITED

This final method is the most novel, mostly still in its experimental phase. It is a combination of the previous two that takes advantage of the developments in 3D biological scaffold printing. The idea, though, is old, harking back to Mary Wollstonecraft Shelley's (née Godwin) groundbreaking story of Frankenstein. In contrast to even more ancient works such as Pygmalion, Shelley's brilliant insight was that we need not rely on stone, marble, or steel to reify an ideal person. Biology can give us all we require.

Since Shelley's time, advances in the technification of biology have made this more realizable than ever before. It has now culminated in the option of combining the biological, human side of method 48 (see Plug-In Hybrid) with the customizable, replaceable nature of method 49 (see Replacement Therapy). The potential of the biocompatible printing scaffolds that revolutionized organ transplantations is woefully underappreciated. Indeed, it has recently been unequivocally demonstrated that printing a human being is no longer impossible (pers. comm.). The fiftieth way to build your lover is to print him/her/they.

You are not cloning, so legal repercussions in the context of the cloning laws will be easily dismissed should you choose to pursue this. Likewise, the android citizenship conventions do not apply. Nevertheless, if this is the method of your preference, I suggest keeping your efforts under wraps. The congregational sects will not take kindly to what they perceive as breaking a divine edict.

Another word of warning: this method is largely untested and requires a substantial knowledge base on topics as diverse as anatomy, physiology, and molecular neuroscience (see the appendix for the minimum requirements). If you succeed in creating a viable lover this way, the moment of proverbial birth is one of beautiful confluence between ancient tale and human electrophysiology. To kickstart the brain and heart of your newly-constructed lover, you will have to apply an electrical shock of >1,000V. Then, however, the work is far from concluded. In contrast to the previous methods, there is no guarantee of love. You can nudge the odds by carefully calibrating brain chemistry and reward circuitry, but this does not provide certainty.

If you want to work for love (and your lover), this is the method for you.

## CONCLUDING THOUGHTS

When presenting these methods, I hear one question quite often:

Sure, you can build a lover, but can you build *love?*

To which my reply is quite simple:

There is no distinction. If you have a lover, aren't you automatically loved/in love? Is love not merely the sequential change in chemical concentration gradients and hormonal release, which can be induced and programmed, and is only instantiated in a lover or through the perception of an object (and subject?) of your love?

Inevitably, the response to this is:

No, not really. True love is something more.

Again, my reply is simple:

Show me.

~

# Read Only

***John Holbo***

"It had been the mental stutter."

- R.A. Lafferty, "Slow Tuesday Night"

The waitress read Kierkegaard's *Concluding Unscientific Postscript to Philosophical Fragments* while the customer pondered the lunch menu. The waitress opened her eyes. The customer was taking a second. She closed her eyes and read Hegel's *The Phenomenology of Spirit*. Now, she felt, she appreciated the irony.

> When in a written examination young people are given four hours to write the paper, it makes no difference whether the individual finishes ahead of time or uses the whole time. Here, then, the task is one thing and time something else. But when time itself is the task, it is a defect to finish ahead of time. Suppose a person is given the task of entertaining himself for one day and by noon is already finished with the entertainment—then his speed would indeed be of no merit. So it is also when life is the task. To be finished with life before life is finished with one is not to finish the task at all.

Kierkegaard would have hated 2048. No one who reads his works with understanding doubts it for a second. Of course, never before have so many readers *read* his works—truly, deeply, and with understanding. Of course, 'the task' is a bit different today.

The customer was ready. That leviathan of philosophy slipped into depths behind the waitress's eyes, subsiding heavily into the vast, brief ocean of her mind.

"I'll have the grilled pseudosalmon. With a Greek side. And just water."

While the waitress tapped it in the customer blinked three times, read three by the neo-popular 19th Century 'sensation' novelist, Mary Elizabeth Braddon: *Lady Audley's Secret*, *Aurora Floyd* and *Circe*. "The cold-blooded assassination of which a coquette is capable." And, in that first, throwing her first husband down the well! Setting fire to the hotel! Too bad the author had only written eighty-four novels.

"Alright, we'll have that out in a jiff!"

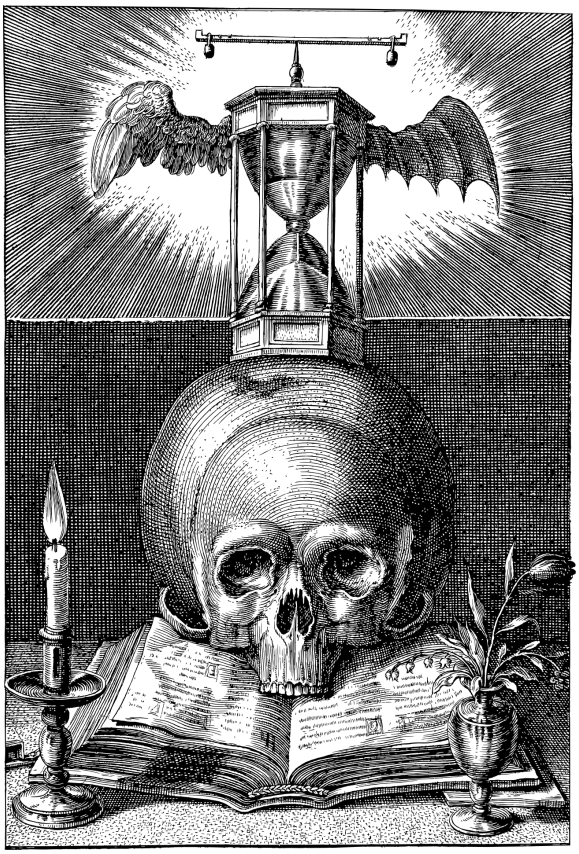
#

The analytic breakthrough by Lin, Gurney, Gupta and Tomás, in 2026, concerned what has come to be known as the Broca-Wernicke gyroidal super-synthesis. Reading comprehension in the brain was not theoretically modelled by these researchers, nor has it been since. No, there will always be more mystery than mastery here. ('Pebbles on the beach,' Newton says of our knowledge of the universe. Our mind is a universe. We play on its beach.) But certain brain regions were, for the first time, well-mapped enough, their function surmised closely enough, to allow for the interventions that followed. Damage, typically due to stroke, resulting in aphasic incapacity, could be treated by therapy. There was a drug to be taken together with a new digital implant. But it was the unexpected effect of drug, plus implant, on normal, unimpaired individuals that revolutionized the entertainment industry and continues to alter culture and society in ways we scarcely understand today and can even less certainly anticipate for tomorrow.

It became possible to 'read' 'plaintext' of almost any length, in the blink of an eye, with comprehension. Only 'naturalplain'—though these texts can be of a semi-technical and quite semantically dense quality. Mathematical and otherwise highly technical notation—complex formulae—have proven less amenable. But as with any pharmaceutical or therapy, the effect is variable across individuals. Some can read and understand Hegel in an instant—but not calculus. For a few it is the opposite. Some will never understand either Hegel or calculus.

Individual variation aside, the impact has been tremendous. Adoption of the new technology was rapid, comparable to that of cell phones for an earlier generation. By 2038, 70% of the US population had received 'biblimstim' implants via safe, reversible outpatient brain surgery, often performed at Amazon neighborhood clinics.

The visual image can no longer compete. Video is dead. Videogames seek to evolve into—or devolve back into—text-based games, so far with little success. Pornography is sought in literary longform. Direct import of image files hits bandwidth constraints, plus—more impenetrably—what researchers refer to as 'the occipital funnel'. Reading comprehension has no such speed limit. *Why Johnny Can't NOT Read*, by MIT linguist and cognitive scientist Gary Ng, is a popular, if speculative, evolutionary psychology account, purporting to explain how a latent capacity to read *War and Peace* in under a second, more than 100,000 years before Tolstoy was born, kept our hominid ancestors alive on the veldt.



Other popular titles compete: *The Bible Brain Code*; *The Potboiler Perplex: Why Great Brains & Great Books Go Great Together*; *From Brocca's Region to Area 51: The Written Plot Against Humanity*; and the more folksy-contrarian *Don't Read This Book!* There are hundreds. Nearly everyone has read absolutely all of them. They're books.

Whatever the explanation, the fact remains nothing can compete, for aesthetic satisfaction, with the comprehensive thrill and impact of, say, a good old, Victorian triple-decker, in an instant.

It's no good 'lectiostimming', instead, a lot of short works, queued up. The mind registers and approves *unity*. Barreling through an anthology is tumbling downstairs mentally.

The supply of extant long-form books in suitable styles is, naturally, constrained, relative to consumption at such unprecedented rates. It was at first believed AI's, trained up on some suitable target corpus, could make up the deficit, meet demand. Neural nets duly hauled in shoals and shoals of thick novels, Victorian novels, Russian novels, Stephen King novels, Barbara Cartland novels, multi-volume Thomistic and German speculative philosophies, history, biography, memoir, travelogue. Less favored in the eyes of the reading public, but viable: ancient poetic epics, popular science, political analysis, so long as it's *long*.

It was believed the ordinary reader would soon browse and wander, happily, the AI-generated equivalent of Borges' library, sampling, not infinite books—not quite!—but as many long reads, in any genre you like, as a human life contains blinks.

But it was not to be. There is something in even the most sophisticated AI-composed book that the normal human brain revolts at. Every AI product reveals its uncanny valley. Astringent, ersatz hint of machine-learning. This is the 'aspartame effect'. Weeding out 'homernods', as these are also known, exceeds machine-learning capacities—nor can humans help. No one can quite put their mental finger on it.

A few readers profess to like that sort of thing—AI-written fiction, that is. Generally, these readers are 'on the spectrum'. There has been talk of treating the problem, then, from the other end, by mass induction of autism, permanently or reversibly, for a para-posthumanist, post-scarcity reading experience. But for now, the neurotypical mind needs human authors.

In schools, results are good, though the need to ensure students have reading assignments long enough to hold their interest has entailed shifts. Some students are prescribed medicine for ASHD—attention surplus hypoactivity disorder and dysalexia. Basically, the inability to do anything but read books.

In academic philosophy no one *doesn't* work on Hegel, resulting in profound shifts in intellectual fashion in a few short years. Most college kids want to major in English literature, with a focus on the 19th Century novel. When asked what they want to do when they grow up, young Americans say, as their great-grandfathers did, "I want to write the next great American novel."

The effect on social media of the cultural lurch to 'megalobiliocephalomania', as it was jokingly dismissed, until it was no joke, has been apocalyptic. Twitter died, proverbial canary in the coalmine of the brain's reading regions—although there was its odd, fluttering death throe; desperate shift from the old, familiar 240 character maximum to a 240,000 character minimum. The 'teratweet' never took off.

Instagram still has a few old family photos. TikTok is old-fashioned as a grandfather clock. Facebook limps along, cajoling its dwindling user-base to contribute to hoped-for multi-author, multivolume fanfic patchworks to be shared and liked. Ad revenue has collapsed. Who spares a glance at any ad less than 500 -pages long?

The fear, for a time, was novel sorts of data breach. By law, companies and governments must now store all personal data in brain-unreadable file formats that cannot be mass-machine-transcribed into brain-readable text format. So far, this wall has held. More positively, it has become impossible to conceal things in formerly written-to-be-unread EULAs. Some readers read all the EULAs ever written, in a row, on a dare. The law is a different business today. Everyone understands the law far better than anyone has ever understood it before. Political discourse has grown civilized. The 'news cycle' is, at once, too swift, yet too slow, to beguile us. Citizens settle for having highly informed debates about longstanding issues, typically based on exhaustive policy white papers and long books carefully blinked over beforehand by everyone on all sides.

The real economy shrinks every year. Just over 50% of employed adult Americans work main jobs as 'mid-list author'. "The middle-class is the mid-list in Middle America on Main Street." Politicians say things like that. But fewer adults are employed. Few say it is a terrible way to go, economically, however.

But some do say it is a bad sign that new novels are always about life *before*.

For mostly what has changed *is life*. Just life. What we formerly considered as such was the business *between blinks*. 'Between the blinks.' A phrase, formerly senseless, now semi-derisive. Going to work, kissing the spouse goodbye at the door, a simple meal, shared conversations, watching the children play. All this goes on. But such 'moments' cannot but seem a long, slow-flowing dream, between burst of *life*, when, for the blink of an eye, something is *happening*—really *happening*. Something to *read*.

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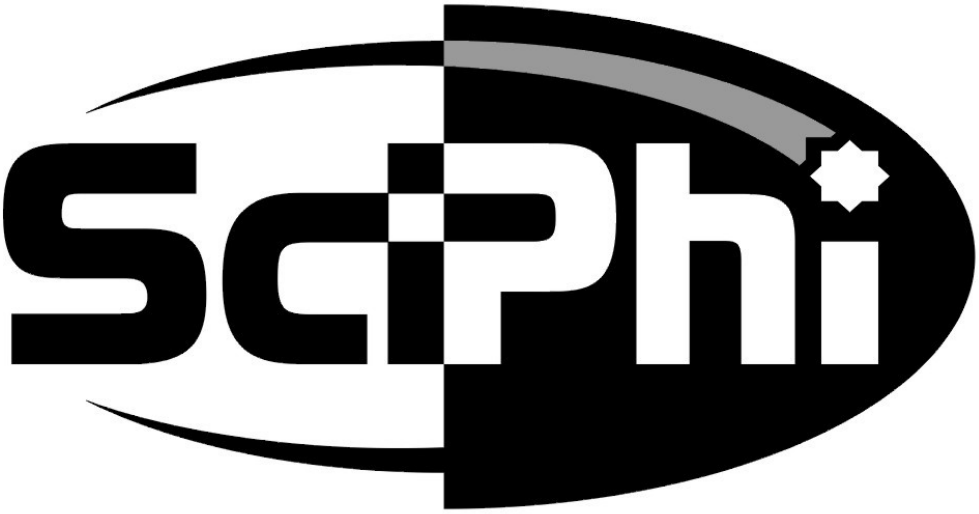


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