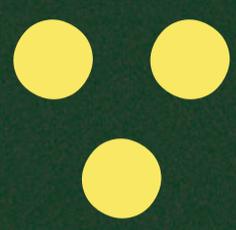


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Published in London, September 2016
Edition of 2,000
ISSN 2058-6930

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Typeset in Akkurat and Sabon
Printed by Wyndeham Grange

Distributed worldwide in association with Bleep and Hyperdub. Available in London at the ICA and Tate Modern.

Edited and art directed by Manuel Sepulveda
editor@aft3.us

All submissions, both fiction and non-fiction, should be in English and previously unpublished. We prefer pitches but will accept finished pieces. Non-fiction should be future-minded, exploring the nexus between art, science and politics, and be accessible to the non-specialist reader. Fiction must have a speculative/sci-fi aspect.

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‘The function of writing is to explode one’s subject — transform it into something else.’ — Susan Sontag, 1976

‘Unless we can psychologically accommodate change, we ourselves begin to die, inwardly. Objects, customs, habits, and ways of life must perish so that the authentic human being can live. And it is the authentic human being who matters most, the viable, elastic organism which can bounce back, absorb, and deal with the new.’ — Philip K. Dick, 1978

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Twilight of the Anthropocene Idols

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geological narrative within a different scale or frame,

and then to differentiate among humans. If it is

capitalism, patriarchy, corporatism or colonialism

that is responsible for geological inscription, then an

observation regarding the species becomes nuanced

by reference to a timeframe of a smaller scale. And

this shift of scale becomes possible if one maintains

a conception of politics that allows for significant

groupings: rather than blame ‘humanity’ we might

think (as Naomi Klein does) of ‘capitalism versus the

climate.’ One might say, then, that the problem with the

concept of the Anthropocene is not that it assumes that

there is such a thing as humanity in general, but rather

that it is insufficiently humanised, and that one would

want to place the ‘anthropos’ within human historical

narratives that make sense of what ‘we’ do by some

broader reference to relations among individuals. To

politicise is to offer a narrative, with narrative always

generating a moral decision regarding scale.

Debates about the ‘golden spike’ [golden spikes

are driven into rock layers to mark geological epochs],

or debates regarding the temporality of anthropogenic

destruction, like the Anthropocene in general, are

claims made for narrative frames and trajectories,

and presuppose not only that humans are political

— defined by their relations to each other — but that

those relations can be morally differentiated. For all

their complexity, the majority of these inter-human

relations of politics are relations of good and evil, and

allow for the thought of a proper humanity that would

not be guilty of the Anthropocene scar. One might say

that it is only when a crime has been committed, such

as planetary destruction, that there becomes both the

need to attribute that crime to a perpetrator, and then

have those to whom the crime is committed emerge as

the proper inheritors of the earth.

If one objects to the notion of the Anthropocene

that it generates a far too general and all-encompassing

‘anthropos’, it does not follow that one needs to find

another culprit or proper name, such as the Capital-

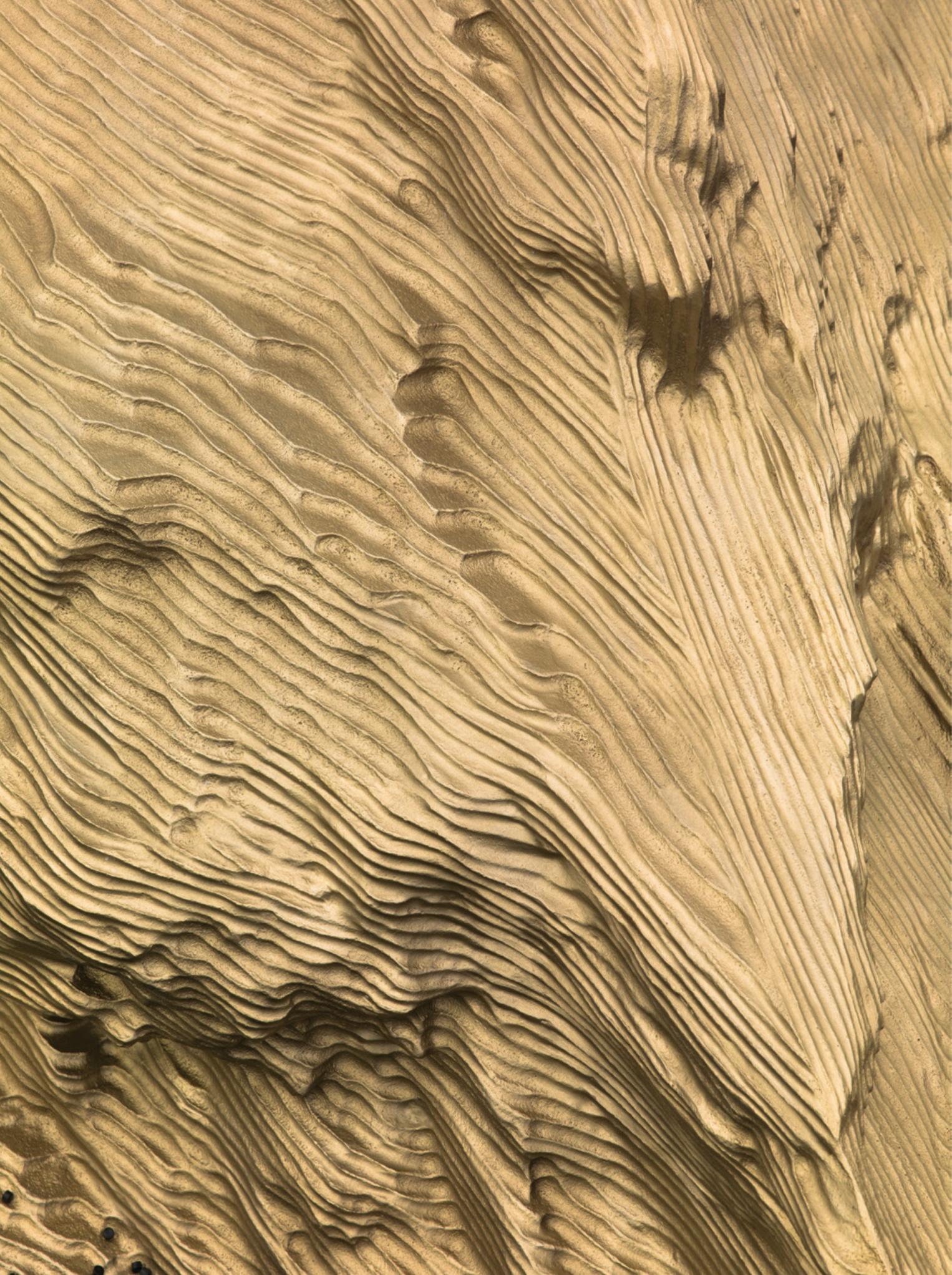
ocene or the Corporatocene. Other geological markers,

including the Holocene, do not have a cause but mark

a shift in multiple factors and forces; and perhaps

one could think of all history this way, as ongoing

reconfiguration with multiple acts of violence and



opportunism. It is not as though there are masters who win and who inflict violence; there is violence and cruelty, from which something like a distribution between master and slave emerges. Only by way of narrative metalepsis could one think of a certain type of humanity (capitalist man) *causing* the Anthropocene; rather, it is from the observation of changes to the earth as a living system that one can then, from a series of observed patterns of violence, posit a relatively stable force or ‘anthropos’. And only then, once that ‘man’ as agent of destruction is posited, might one then find *another* agent, a force for good.

The briefest of glimpses at contemporary cultural production testifies to this *ressentiment*: if humanity has been the victim of those who have intensified its improper capacities (over-consumption, over-production, exploitation) then another humanity will emerge after the game-change of the Anthropocene. The flourishing industries of climate change fiction and post-apocalyptic drama — in addition to all the usual laments regarding capitalism, colonialism and patriarchy — have generated an excess of monstrous humans, including aliens, zombies, viruses, pseudo-humans and corporations who enslave the planet, thereby prompting the proper future-oriented humanity to gather forces and triumph over an external and inhuman force. (In addition to *Avatar* one can think here of recent films such as *World War Z*, *Oblivion*, *Interstellar*, *Elysium*, *Into the Storm* and *Mad Max 4: Fury Road*.) In both fiction explicitly concerned with climate change to more allegorical presentations of species bifurcation, humanity is at war with the improper and inhuman fragment of itself: a destructive humanity becomes the catalyst for human triumph, with a proper humanity emerging with sublimity from near death. In *Interstellar*, *Elysium* and *Avatar*, a myopic, profit-driven, corporate, militaristic state power is vanquished by an ecological, future-oriented and empathetic humanity. If there is an improper destructive humanity — and this is evidenced by the geological inscription of the ‘anthropos’ — then there *must be* a humanity who would emerge when such an evil humanity has been vanquished. If we are fallen, now in a world of loss and mourning, then there must have been (and will be) a better humanity to come. This is not to say that there has not been violence and injustice, but it *is* to suggest that just because there has been violence one might attribute such force to a single guilty agent (bad Anthropocene man) thereby promising another humanity. One might contrast a Kantian conception of justice, where the very idea of a good will necessarily opens and promises the idea of justice to come, with a Nietzschean notion of justice as the play of forces that generates disequilibrium. The former conception of justice allows the promise of a proper future to follow from the violence of the present: if there is no paradise, then paradise must have been lost, and therefore *will* be regained. This logic is not confined to post-apocalyptic cinema, but is announced in Jacques Derrida’s deconstruction, where despite all the violence undertaken in the name of justice and democracy, these ideas *cannot* be contained by the present and necessarily promise a future, justice and democracy to come. Against this, one might think of forces in strife as operating less by way of good and evil, or light and dark, and more by way of twilight — of discernible distinctions but always amid a potentially overwhelming indifference.

It does not follow, then, that all the evidence of violence and injustice, and especially the positing of an agent of destruction that operates at species-level, generates the promise of a good human future. If humanity has somehow managed to bring itself to the brink of non-existence, it does not follow that it must rally to save itself, nor that it must do so against a certain evil tendency that will be vanquished in the

humanity to come, nor that ‘we’ will be all the greater for having contemplated the potential end of humanity as such. From Naomi Klein’s claim that climate change is the opportunity finally to triumph over capitalism, to the environmental humanities movement that spurns decades of ‘textualist’ theory in order to regain nature and life, to wise geo-engineers who operate from the imperative that if we are to survive we must act immediately and unilaterally, the end of man has generated a thousand tiny industries of new dawns.

All of these vivid calls to arms rely on expertise and generate the very ‘we’ that is being addressed. Let us take the first claim about Anthropocene tipping points, or the ‘golden spike’. Let us accept the premise of the dispute, and say that we might quibble about just when to mark the Anthropocene (industrialised agriculture, colonialism, the steam engine, nuclear energy); accepting that there is a point where man became definitively destructive implicitly generates another pre-Anthropocene humanity, or a counter-Anthropocene. An implicitly moral line of time is effected: if there is a point at which humanity becomes catastrophic at a planetary level, then there is the possibility both of attributing blame, and of retrieving and saving another humanity.

A new humanity is constituted by the threat of its disappearance; or, to follow Nietzsche: it is the voice of a moral law (‘thou shalt not...’) that produces ‘man’ as a guilty animal, bred and groomed through the attribution of guilt. If there is a being called man who has destroyed the planet, then not only is a bad humanity produced as the new agent of history, an entire industry of those who would self-diagnose and redeem humanity becomes possible. It is as though only with the impending end of humanity does something like ‘the human’ become visible in all its anti-human glory. Now that geologists have discerned evidence of damage at species level, the human becomes at once victim, agent and redeemer. The ‘anthropos’ is produced through an event of guilt and diagnosis; if there is damage and inscription at a geological level, then there must be a response at global level, an end to all talk of there being no such thing as ‘man,’ and some account as to who, when and how this tragedy occurred. The ‘anthropos’ brings himself into being by way of a blinding discovery: it turns out, after all these years, that there is a ‘we’ and that ‘we’ have not been good to the planet (well, at least not the planet as we would like it to be). States of emergency seem to call for a suspension of the free reign of opinion along with the resurgence of authority. If the bankers and economists benefited from the 2008 financial crisis by declaring that time was running out and ‘we’ have to act now, and *then* think about justice, then one might ask why climate science with its dire predictions has not been blessed with the same unquestioning obedience. Perhaps it’s because of a failure of rhetorical flair: ‘we’ can only hear those who offer a future to come, a promise of a blessed humanity that will rightly inherit the earth. Indeed, there is no ‘we’ outside this rhetorical call to arms. So while all the declarations of authority would call for one kind of action worthy of the dire predictions of the present — a questioning of whether what has called itself humanity has a right to survive — the only ‘action’ has been an insistence on a future *for us*. Just as the 2008 financial crisis somehow — how? — seemed to prompt a desperate effort to ‘save’ the banks, a climate crisis seems to justify saving humanity, and yet without all the emergency measures that were taken to save the global economy.

And yet, as Nietzsche argued, these idols emerge in moments of waning and decline, or disappointment, even if they are, for all their late appearance, eternal:

...as far as sounding out idols is concerned, this time they are not just idols of our age but eternal idols, and

they will be touched here with a hammer as with a tuning fork — these are the oldest, most convinced, puffed-up, and fat-headed idols you will ever find. [...] The disappointed one speaks: I looked for great men, and all I could find were the apes of their ideals.

It may well be that it is only when the species is at an end that it recognises itself as a species; that it becomes fully and self-righteously human only in the moment it is required to face its loss, a loss that, in turn, seems to grant it the imperative to survive at all costs. Man exists, and must be saved. He can only be recognised and saved in these last hours, when destruction has reached such a degree as to become evident. Some have presented this moment as a *felix culpa*: without the evident, readable and diagnosable destruction of the Anthropocene, we would not have realised who we are, and might have proceeded with capitalism, industrialism and ecological destruction without this wonderful wake-up call. Now man knows who he is, and that he can only be saved by himself. He must first accept that there is indeed this unified global/geological being called the human. From there, in this moment of being too big to fail, all forms of emergency measures must be unfurled, if we are to survive. In short, it is by way of destruction that the human emerges, finally, as destroyer and preserver, enlivened by a whole series of moral laments that produce man as *he might have been* — the man prior to whatever we determined the golden spike to be — and then further enlivened by a new managerialism that accepts that if the human exists as destroyer then there is some urgent imperative to generate a fully human future. It is by way of a whole series of self-accusations that Anthropocene man becomes capitalist man, patriarchal man, corporate man, colonising man, or the man of the nuclear age; this industry of self-accusation allows for another humanity, and one — precisely because it is threatened — that deserves to be saved.

Here, though, it might be worth questioning whether the Anthropocene is an event that really does demand that one either accept the general condemnation of man or blame a specific modality in man’s history (capitalism, corporations, males, the West). It seems that we have two options: either the Anthropocene is an effect of man in general, or it can be attributed to capitalism (or corporations, or colonialism, or patriarchy), in which case man can emerge as an innocent animal — as a new humanity to come. But what if one were to refuse both these options by suggesting that man is neither the global culprit, nor the global victim, and that there are many living beings on this planet who live, dwell, struggle and survive with no sense of humanity in general? What would the present begin to look like if we refused both the claim for humanity as global agent and humanity as proper potentiality who may (and ought) to inherit the earth? If we accept the Anthropocene premise that man in general is responsible, then we accept something like the human as such and ignore the subtleties of history, culture and difference; if one aspect of man is responsible — say, capitalism — then that allows for a space outside the guilty party. Either way, one generates the human, first by way of accusation — the Anthropocene, a single scar that calls us all in the moment of defeat — or by way of exculpation: no, not the human in general, but *these* humans — the capitalists (say) — whose end will actually allow us to dream of a new beginning. Those who declare man to be guilty are the first true humanists, generating the ‘anthropos’ as agent, and promising another humanity — one which can be intimated after the crime of ecological destruction has been detected, diagnosed and managed.

Extracted from *Twilight of the Anthropocene Idols*, by Tom Cohen, Claire Colebrook and J. Hills Miller, Open Humanities Press, 2016.



A Taxonomy of Explosions

Preliminary shrapnel

by Jennifer Boyd
illustrations by Dave Gaskarth

PLUCKED FROM ITS INDENT in the topsoil, the word ‘explosion’ is slightly warm and covered in dark, perishable spines. Wiped clean and held up to the light, it catches a scattered score of brittle remains, black jet, and kaleidoscopic shards. Its symbolism announces itself in aches and ecstasies: death, violence, celebration, pleasure, birth. Power permeates each exhalation. Explosions speak of and to the apogees of our desires. Due to their ‘anthropomorphic extremism’, explosions can, in a sense, be thought of as our closest living relatives, especially when seen standing on the land, amplified to the ratio of giants. As a result of this conflux of extremes inside the same live specimen, ‘explosion’ is a word that bristles when handled.

In the first instant, before the form of the word collapses on the flat of the palm, we are caused to think of actual explosions: blasts outward, inverting fireballs, smoke columns, burning heat, white tendrils, falling fragments. Secondly come the metaphorical explosions: the rush of thousands of new legs in a ‘population boom’, or the comments and images flung from the centrifuge of a news story. We use them to describe periods of social upheaval and new movements — things that make an impact. Further to this, they inhabit our common phrases: ‘he exploded onto the scene’, ‘they went out with a bang’, ‘she blew my mind’. We also abstract explosions vividly into the body, using their anatomy to lend structure to sensation: the internal shimmering brought on by pleasure, or the wild burn of anger.

Explosions are immensely physical, and yet they are non-material — fire, smoke and sensation are all fleeting. However, they leave behind evidence and residues — explosions lack solids, aside from the ways in which they alter the already-existing. They resound across the body’s interior, the exterior landscape, and the environments created in cultural imaginings.

In the third instant, the first two are found, shaped

and held by mediums. Visualisations objectify explosions, generating the ways that we witness them, emphasising and tampering with their physics. In cartoons they are presented as a jagged bang of red, orange and yellow, smoke clearing to reveal still-standing, soot-covered protagonists who have evaded bodily obliteration. Elsewhere, the mushroom clouds of the 1945 atomic bombs were petrified in still photographs, turned into statues and circulated *en masse* as referent to the singular violence of these events.

We see explosions reflected in the retinas of film stars, pixelated in video game fantasies, and used as status-inducing backdrops in music videos; often they are wasteful energy serving nothing but spectacle and drama. On YouTube you can watch recordings of blasts from warfare still ongoing, and military tests, the camera set close enough that it stands in for the body, knocked to the ground by a shockwave or travelling cloud of dust. Explosions also take place out of sight, unrecorded by the media, and flicker on the screen of the subconscious as a thing always potential. There are places where explosions concentrate, repeating in the same spot again and again. However, they also retain the ability to happen anywhere, at any time, and break new ground.

Explosions are events that can be broken down into four temporal phases. First, there is the build-up: a furtive growth of gas, a camera following a snaking fuse as its increments are eaten by sparks, or the silent accumulation of rage within a body that seems fine on the outside. The temporal framework of this first stage hangs on anticipation, as well as either human decision or natural premeditation. Second, there is the opening ‘split second’ of the explosion which wrenches from nothing to everything quicker than comprehension, followed by a seemingly endless moment of stretch. This phase of shift and stretch is one of flux, in which regulatory constrictions of ticking time and

recognisable relationships between things evaporate. In this phase, there is just the body and the explosion.

Third, before the aftermath sets in, there are the ‘loose seconds’ in which realisations begin to drop, falling as if pieces pelting the ground, bringing the witness back round to reality. This phase contains sequential sister blasts, scraps of material licking the blue of the sky, a ringing in your ears, and the sigh of cells. The contrasting silence that follows an explosion can seem like a vacuum, a period when the observer is stunned, before what has happened begins to sink in. A moment of aftershock shock. Fourth, there is the aftermath: eerily precise conical craters, fractured tarmac, and marks on the outer body — either temporary adorations or permanent scars. (Abstract theorisations slip away extraneous at the point at which screams begin to slowly burrow back into our hearing.)

Explosions have two close relations: bombs and eruptions. However, unlike explosions, these signs cannot break from the ways that they are tethered to the solid. Eruptions have an inherent substance, which oozes out following the first rupture. They always have a point of origin; the most prevalent image of an eruption is a volcano, its lava both bubbling out and leading us inside to the Earth’s hot centre. Eruptions do not have the ability to come from nowhere — their sources are solid objects, and their outcome is always material.¹ Dropped, planted in the ground, or strapped to the body, bombs are objects with a specified directive: their rhetoric is connected irrevocably to warfare. That said, an explosion is part of their plan, and as a

1. Pleasure is linked to all bodily fluids and thus can take up the descriptor of ‘eruption’. However, these material aspects again to some degree restrain the possibilities of signification to the literal. Enjoyably, one of Jean Baudrillard’s descriptions in ‘The Anorexic Ruins’ of our current state of excess is made on bodily eruptive terms: ‘The boil is growing out of control, recklessly at cross purposes with itself, its impacts multiplying as the causes disintegrate.’

result, a bomb as the objectification of explosive threat has seen them used as a symbol in artistic practices. For example, in Emily Dickinson's poem, 'The Soul has Bandaged Moments', the line 'She dances like a Bomb' takes up the bomb to symbolise the ecstatic soul when in a transient state of freedom from inhibition.

The move into the twenty-first century has seen our relationship to explosions shift, as we drift further from the atomic bombings of 1945. These mushroom clouds hung heavy over citizens of the twentieth century, and now exist as a tinnitus. Our current awareness of nuclear explosions is in relation to secret ownership and maintenance costs, and the repeated rhetoric that if there were to be another nuclear bomb, it would be the end of the world. The foreground of our current soundscape is textured by the IRA bombings of the 1990s, Western drone attacks on the Middle East, and terror attacks on shopping centres and historic sites; the latter, as Paul Virilio and Sylvère Lotringer note in *Pure War*, are timed to make the evening news in order for them to be repeated and affirmed by a media explosion. States of conflict contextualise any given period of time and they should not be redacted from a taxonomy of explosions. We cannot, and should not, empty explosions of this violent history. However, they are also to be found in other locations. Explosions as a thing and concept should be considered independently from the tangibility and specificity of bombs and eruptions. Examples should be sought from across history, phenomena, literature, film and art, which focus on the explosion as the thing itself. Acknowledging these close relations, but in aim of moving to clear, conceptual *terra firma*, the defining aspect of any explosion is that it is a sudden, outward expression of energy, in excess of the usual environmental and corporeal levels.

Explosions are both a weapon of dominant masculine history and mascots for its growth fetish. However, to date they have also been used on numerous occasions by anti-authoritarian individuals and groups as a means to talk back to dominant powers in their own language — a means to throw the power found in the explosion back in the face of authority in a turn of the symbolic: for example, by the Suffragettes who blew up London letterboxes in the early 1910s at the service of the women's liberation movement being heard. (The demarcation between these two sides isn't stable, and the seduction of the explosive spectacle arguably takes in all who use it. This seduction should be examined critically, but also given into, and twisted for unorthodox uses.)

In the introduction to his 1964 text, *Understanding Media: The Extensions of Man*, Marshall McLuhan proposes, on explosive terms, that the West has been in a state of expansion up until this point and is now collapsing in on itself:

After three thousand years of explosion, by means of fragmentary and mechanical technologies, the Western world is imploding. During the mechanical ages we had extended our bodies in space. Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned.

Further to this, Jean Baudrillard writes in his essay, 'The Anorexic Ruins', that the explosion (the explosion to which McLuhan also refers) has already occurred, and that the only one left is the temporal bomb; however, this has already occurred too, seeing our time thrown into an immobilising, eerie retrogression. Everything feels extreme at this tipping point between explosion and implosion, as we enter the final throes of accelerating towards our limit. Having nearly expanded to our limit globally, it is argued that we know everything, rendering everything dead, and thus anything further is a simulation. Current capitalist culture is based on a deliberate over-saturation as a

means to engender exhaustion, and thus limit revolt. There is little undulation in the language used by the government and the media — everything is unrelentingly catastrophic. This constant drama overwhelms and generates retreat, producing a hyper-individualism that allows us to only care for our immediate needs and those close to us, as well as giving rise to an increase in depression, anxiety, illness and breakdown as pressure is internalised.

This permanent state of extreme makes impetus inert. As Paul Hegarty writes in 'Before and After Baudrillard' (in his book, *Live Theory*), 'The growing density of simulations is destroying it. Implosion is swallowing all the energy of the real.' However, the idea that everything is simulation, nothing is real, and there is no future, should be moved to the edge of the table, in accordance with Baudrillard's final assertion in 'The Anorexic Ruins' that actually we live in a 'brilliant epoch' where 'no one knows what might happen'. Yet energy has to come from somewhere. With the outward conditions so extreme, a turn inward is inevitable (even if coupled with a simultaneous turn to collective care); perhaps, to this end, rather than a defeated return to the interior, we should instead internalise the explosion. (This, potentially a regrouping, before an explosion back out towards specific targets.)

Commenting on the Challenger space shuttle disaster — in which the shuttle exploded nine miles up into the air seventy-four seconds after take-off, watched at a distance by a crowd of onlookers and televised live — Michel Serres states (in his *Conversations on Science, Culture, and Time* with Bruno Latour) that these disasters cause us to look high up into the sky: 'This object, which we thought simply brought us into a relationship with the stars, also brings us into relationships among ourselves'. The live broadcast cuts between the crowd of onlookers and the shuttle going up, then between the onlookers and the exploded and falling shuttle. A simultaneous coming down from euphoria that was rendered unreal following weeks of build-up towards what they fully expected to happen but then didn't. A collective realisation done out in the open as each of their faces looked down and then once again upturned. Explosions are shared things; according to Serres, these events are the statues that give us light and shadow allowing us to analyse our science and our selves, rather than dying cold in the bright light of the pure sun.

As Baudrillard writes: 'it has become apparent that growth has ended and that we have entered a field whose consequences are unpredictable'; currently, we're at the edge of expansion and have hit a wall — when everything is known, nothing means anything, and simultaneously anything feels possible as, upon hitting this wall, mandates dissolve. Further to this, Baudrillard writes, 'what is worse — bordering more on a catastrophe than a crisis — is when the system overextends itself, when it has already left its own goals behind and thereby no longer has any remedies at hand'. Explosions are a motif whose potency has endured — we cannot seem to stay away from them. The physicality of explosions is so strong that their gesture reaches us, transcending page and screen in a molecular-to-molecular relation — the stirring they do to the land speaks to the stirring they do of our bodies, even at degrees of removal. They offer something that feels definite in an increasingly nebulous time.

The core intention for creating a taxonomy of explosions is to take stock of pre-existing explosions at this specific moment, as an exercise to examine their qualities, how we use them, and seek possible revolutionary uses that are not limited to mimicked retaliative blasts and traditional forms of direct action. Specifically, within this preliminary shrapnel, the focus will be on temporality and materiality — on the understanding that they are two things currently in states of disquiet — and interior to exterior relations, and how both sites might stand to be transformed.

TO GENERATE PRINCIPAL TAXONOMY categories, three inceptive images can be turned to. The first is the upward bloom of an actual explosion. The second is a spherical bang, which produces a perverse symmetry of parts outward from a dense centre. The third is one that cannot be seen: it is an abstract sensation based in organic cells.

Principal categories: Bloom, Bang, Bodily

Subcategories: animal, anti-authoritarian, astronomical, conspiracy, girlish, heat, liberating, light, linguistic, man-made, multiplied, mythology, pleasure, pseudo-science, sonic, symbol-shattering, women

EXPLOSIONS PUNCTUATE THE LINE of history. Although each explosion has its own specifics and there are numerous types of actual explosion (chemical, nuclear, natural, astronomical, etc.), their images persist in their near sameness which means that when we look at one, we are simultaneously looking at every explosion that has ever occurred — a concertina of temporality is folded inside each one. The resulting paradox is that we are staring at a thing that contains the past and yet we are resolutely in the present moment.

How do you study a thing that is multiplex in its symbolism, territory, temporality and materiality; a thing that is not solid or single in place; a thing that is duplicitous in its seductions? Looking at the bright bursts of explosions on the horizon line of our trajectory causes a contraction between times, places and disciplines, in which actual explosions are mixed with cultural imaginings, and there is the possibility for popular culture to be classified next to grand historicised events. Explosions are a lens that can be used to create a kind of queer, alternate history based on extreme energy. Due to this contraction, rather than writing a timeline of explosions, a taxonomy based on thematic classification can instead provide a framework for excavation. The aim: to create an active resource for theorisation as well as a resource of extreme energy — a box of explosives that we can look down into. Crack the lid open and watch them fizzing. The preliminary shrapnel of this taxonomy is lined up in size order, moving from the grand macro down into the cellular micro. These first fragments stand as field notes on a small number of examples, written accordingly as analysis, description and 'off-record' speculations.

Fragment 1

A large boulder, effervescent when touched.

In the final book written before her death, *The Hour of the Star* [Bodily: astronomical, girlish, linguistic], Clarice Lispector inserts explosions into her text. They occur (explosion) with an affective lack of warning, sounding out eight times from the book's interior. Wedged into the thick flesh of sentences, the brackets around them mirror an explosion's outer energy ring. These explosions punctuate the lifeline of Macabéa, a sickly girl who lives on Coca-Cola and hot dogs in the slums of Rio. The textural body can be taken as proxy for the body of Macabéa — these explosions do not belong to the external landscape of the narrative, rather, their impact is inside her. Their jangling accrual articulates the dislocated build of Macabéa's form as if a skeleton of pressure points.

In *The Impossible*, Georges Bataille writes, 'nothing exists that doesn't have this senseless sense — common to flames, dreams, uncontrollable laughter — in those moments when consumption accelerates beyond the desire to endure'. Akin to Bataille's understandings, Macabéa's explosions sound after things that are the inverse of societally upheld achievements: when she loses her job; when a relationship ends; minutes of irrepressible giggles. In the text there are numerous points at which Macabéa's pallid frame and face are focused on, but despite this, her image is never fully



Total Freedom

Patrik Schumacher interviewed by Martti Kalliala

MOST ARCHITECTS ACTIVE in the public sphere would probably place themselves on an ideological spectrum ranging left to right from [prefix]-Marxist, to fuzzy liberal, to neoliberal — generally with a diminishing interest in being vocal about one's position when moving rightwards. Patrik Schumacher, director of Zaha Hadid Architects, founder of the Design Research Laboratory at the Architectural Association, and a leading thinker and practitioner of parametric architecture, is, however, a contrarian. His views on the primacy of the market as the essential organising principle of society are so far to the right that he in fact resides outside, or 'above' the spectrum as libertarians and anarcho-capitalists tend to illustrate their position. While this position is typical for much of Silicon Valley's tech elite, it is an anomaly within architecture.

And Schumacher doesn't shy away from expressing it, hammering away Facebook posts and blog comments in the multiple-thousand-word range, expounding a politics and idea of architecture's essential social task based on a framework provided by the Austrian School of economics and the work of Niklas Luhmann.

Indeed, it is my impression that it is in fact Schumacher's prolific online presence rather than his monumental work in the form of the books *Parametricism I* and *II* (or the recently published anthology, *Politics of Parametricism*) which has in recent years spawned a curiosity towards his thinking amongst those who have previously either had little interest or had an aversion towards the particular design language he employs.

I was curious to hear Schumacher elaborate on some of the public positions he has taken lately, from his surprising involvement with the newly-founded libertarian micro-state, Liberland, to his takedown of 'PC culture' in contemporary architectural circles, to the general evolution of his own thinking.

This interview was conducted a couple of weeks before the unexpected death of Zaha Hadid.

MK — IN A RECENT LECTURE, aptly named 'In Defence of Capitalism', you talk about your personal shift from a self-proclaimed 'revolutionary communist' to an advocate of libertarianism and anarcho-capitalism. Could you tell me more about this ideological turn; what triggered it?

PS — How society works or should work is the most momentous question that I feel confronted by, but it's also the most complex, non-trivial, perplexing question. I started early on to invest a large chunk of my learning and energy in the attempt to penetrate the matter and reach a position I can argue and commit to, and to break into the circle of those who address and claim to answer the deepest questions. What is the world? What is thinking? How is knowledge possible? These questions led via language and life forms (Wittgenstein) to society (Habermas) and political economy (Marx). Thus I arrived at Marxism first via

theoretical philosophy rather than any prior political bias. Wittgenstein, Habermas and Marx showed that pure philosophy was vain. Habermas and Marx showed that the theory of society must become the fulcrum of all philosophy. Marx showed that theory must fuse with practice. He delivered a system of political economy as a crucial theoretical component of a radical, transformative political project. Marx's philosophy is of a totalising scope and able to theorise its own historico-sociological conditions of emergence and development. Marx's system was the first 'super-theory' in Luhmann's sense, i.e. a theory that is able to fully and consistently theorise itself.

Marxism seemed most profound and ambitious to me. Nothing else came even close. Marx's analysis of capitalism's anarchy, implying that the aggregate result of atomised human action confronts everybody as alien force, and that communism offers the prospect of an emancipated mankind finally gaining self-conscious control over its own destiny, seemed as compelling as it was inspirational, underpinning my activism.

My architectural position during my Marxist years was initially independent of my understanding of political economy. In the mid-1980s, at Stuttgart University's architecture school, I had discovered a new fascinating degree of freedom and compositional complexity in the work of 'deconstructivists' Zaha Hadid, Frank Gehry, Coop Himmelb(l)au, amongst others. In 1987 I moved to London to continue my studies and made two further discoveries: Deleuze and Guattari's *A Thousand Plateaux* and the 'rhizome', and *Marxism Today's* post-Fordism discourse. For the next few years I invested my time in these three discoveries (whilst in 1988 I joined the studio of Zaha Hadid).

In the early 1990s these three strands fused in a synergetic combustion when I realised that Deleuze and Guattari's philosophical abstractions and the new abstract spatial moves of deconstructivism are congenial to the new socio-economic patterns of post-Fordism. The keywords that made this synergetic link-up possible were notions like complexity, self-organisation, network. The connection between architecture and Deleuzian philosophy was also made by Jeff Kipnis and Greg Lynn. I added the socio-economic dimension in terms of post-Fordism (which was also suggested by David Harvey at the time). Lynn brought complexity science and new biology into the mix, and I was inspired by the post-Fordism debate to explore the proliferating literature on new management and organisation theory. Here I found even more concretely applicable congeniality between the latest conceptions in corporate organisation (network organisation, self-organisation, fluid and blurred boundaries between domains of competency, etc.) on the one hand, and the latest repertoires of complex, layered and fluid spatial organisation of our (and our friends') architecture on the other. I made this congeniality the basis of our first three-year AADRLL research programme, *Corporate Fields*, which was —

at least in my version — inspired by what I considered post-Fordism's progressive, emancipatory economic and political potential. At that time, I saw the capitalist and neoliberal framing of these processes as a contradiction that could be bracketed and would eventually be overcome by a new left progressive politics ('radical democracy') that was left vague in the Marxist outlook I was still committed to. The demise of Eastern Bloc 'communism' did not shake my commitment.

However, my commitment to Marxism *was* slowly undermined by new theoretical influences. My interest in sociology in general, and in business organisation theory in particular, had led me to the work of Niklas Luhmann. I was digging into his huge, compelling oeuvre, reading nearly nothing else for years, and it slowly but surely weaned me away from Marxism. His work re-founds sociology on the basis of complexity and communication theory. His comprehensive system was the first theoretical social theory edifice that seemed able to compete with Marxism in terms of scope and theoretical ambition. As a mammoth single author's work (which at the time was still ongoing), it was both more unified and more updated than what Marxism had to offer. Luhmann's system too was a true 'super-theory', with the additional advantage that he reflected this fact explicitly. He did not espouse any explicit politics. His implicit politics were ambiguous, perhaps nihilist in their dry, sceptical tone, but certainly not socialist. My Marxist dream of mankind's potential for democratic 'self-consciousness' faded in the face of Luhmann's theory of a functionally differentiated society where incommensurable, self-referentially enclosed ('autopoietic') subsystems (economy, law, politics, science, etc.) coevolve without any overarching control centre or integral rationality, and where productivity gains are due to the adaptive information processing power of this de-centred system.

The political system was just one of many parallel systems that in no way could deliver decisive control over total social evolution. Any such attempt would break at the complexity barrier presented by the inter-relationships of contemporary world society. Successful attempts at control could only result in a regressive (totalitarian) blunting of society's complexity. Under Luhmann's influence my political ambitions faded altogether and my political economy outlook became, by default, rather mainstream, with increasing sympathies for market solutions over political solutions. Since the late 1990s I have built my theory of architecture on top of Luhmann's theory of society, treating architecture as one of society's autopoietic function systems.

Luhmann's theory of coevolving autopoietic societal subsystems (function systems) suggests that it should be possible to find — in each epoch of society's overall evolution — complementarities between the architectural subsystem on the one hand and the economic and political subsystems on the other. In short, it should be possible to align the styles of architecture with the stages of capitalism, and thus to ground the

familiar stages of architectural history with reference to the stages of society's historical evolution. As society's political economy evolved through the various stages of capitalism — early capitalism, absolutist mercantilism, *laissez-faire* capitalism, Fordist state capitalism — the discipline of architecture coevolved via a sequence of epochal styles that roughly align with the above stages of capitalism: Renaissance, Baroque, historicism, modernism. The onset of the current stage of neo-liberal post-Fordism spelled the demise of modernism and spawned a flurry of diverging architectural responses: postmodernism, neo-historicism, deconstructivism, minimalism, parametricism. It is my contention that parametricism is architecture's most congenial answer to post-Fordism.

I had this theory all worked out in elaborate detail when in 2008 I was jolted out of my mainstream political-economy slumber by the financial crisis. What had I missed? What could explain this unexpected devastation? I looked around for explanations. I was already sufficiently sceptical about Marxist and left-leaning accounts that saw nothing but capitalism's inherently contradictory and self-destructive tendency at work, unleashed by the neoliberal deregulation of recent decades. I looked around for alternative accounts and came across Austrian economics, initially via figures like Thomas Woods (*Meltdown*) and Peter Schiff (*The Real Crash*). I rapidly dug deeper and got hooked on the work of Ludwig von Mises, and then his students Friedrich von Hayek and Murray Rothbard. I had come across Mises before, in 1987 in Marxist circles debating the prospects of 'market socialism'; I was fascinated by his polemic radicalism, but failed to see his significance. This time around I got hooked and invested a lot of time and energy to explore his monumental work. I got more and more radicalised and was soon ready for Rothbard's anarcho-capitalism.

The political ideology and programme of anarcho-capitalism envisages the radicalisation of the neoliberal roll-back of the state. As a special form of anarchism based on private property as society's most basic institution, its call for the extension of entrepreneurial freedom and competitive market rationality pushes to the point where the scope for private enterprise is all-encompassing and leaves no space for state action whatsoever, positing the privatisation of everything, including cities with all their infrastructures, public spaces, streets and urban management systems. Even the provision of the legal system can be imagined fully privatised, via markets with competing jurisdictions, multiple competing sets of statutes, competing private courts, etc. These are, intellectually, incredibly stimulating propositions and the rapidly growing literature around such libertarian themes is rather sophisticated.

So, my old presumption that all intellectual sophistication resides left-of-centre was more and more revealed to be an abject fallacy. In any case, the left-right distinction cannot at all capture (and orient us in) the contemporary political landscape and should be scrapped and replaced by a more appropriate compass.

Like the anarcho-capitalists, I have lost faith in 'real existing' representative-democracy and its centralised decision making which fails in its promises and is bound to fail more and more in the face of global interconnectedness. The scope for majoritarian dictates must shrink. Democracy can no longer cope with contemporary complexities — even if elected officials had the most selfless and noble of intentions. Contemporary society is probably better off betting on decentralised decision-making and an unleashed entrepreneurial creativity — a system where new products, services or institutions can be tried out and weeded out right away without first having to convince the majority. There should be no imposition

of one-size-fits-all constraints on free contracting. One-size-fits-all schemas are an anachronism in contradiction with post-Fordism.

The disadvantages of state regulated capitalism and the potential advantages of a radicalised anarcho-capitalism are much more pronounced now — in the era of a computationally empowered post-Fordist network society — than they were during the era of Fordism, i.e. the era of mechanical mass production. Socialism — a centrally planned economy with a strong commitment to income equality — was to some extent compatible with the utilisation of the opportunities of mechanical mass production. But it is incompatible with the full utilisation of contemporary post-Fordist opportunities which require much more dynamic and intricate forms of social cooperation. This assessment is coherent with both Luhmann's and Hayek's understanding of society and its modern history.

The philosophical and methodological underpinnings of Austrian political economy — bottom-up action theory and a non-reductive methodological individualism — are compatible with Luhmann's approach and theory. Hayek and Luhmann especially are congenial with respect to the shared intellectual paradigm of complexity theory. They concur in their general emphasis on self-organisation, emergence, evolution, and information processing. In particular, they concur in the assertion that modern societies have evolved to a point where an insurmountable complexity barrier stands in the way of any attempt to rationally direct societal development via central political control, and that any such attempt implies a regressive blunting of society's highly evolved complexity and information processing capacity, with detrimental consequences for prosperity. Thus freedom (mutation) and competition (selection) are the evolutionary mechanisms that need to be given space to operate.

SPEAKING OF GIVING SPACE, this might be a good moment to mention your involvement with Liberland, a libertarian micro-state established in 2014 on a contested piece of land between Croatia and Serbia. You are now leading the jury of an ongoing international design competition to find an urban framework for the nation-to-be — a 'society that aspires to a maximum freedom'. What is the potential of Liberland, especially viewed in the context of the multiple crises currently wreaking havoc across Europe and the world at large?

I think Liberland is a fantastic effort on many levels. Vit Jedlička [Liberland's founder and current president] is a formidable force to be reckoned with. His project is as sophisticated as it is heroic. The chance that it might become real is only one of its merits. It is also a newsworthy, radical message and a tangible vehicle of political economy speculation which poses as many theoretical questions and conceptual challenges to us as it poses practical challenges. The project decisively poses the central challenge that urbanism faces in the current era of market-based urbanisation processes: to devise a methodology with many degrees of freedom; and abstract general heuristics allow piecemeal urban agglomeration processes that not only maximise programmatic synergies but make these synergies legible within an evolving navigable order.

The presence, or near presence, of a practical project has also always disciplined and guided the development of Marxist theory, although the blanket refusal of Marxists to 'indulge' in blueprints and detailed speculation about the prospects and probable (political and economic) problems of democratic socialism had been (and remains) its Achilles heel.

Avant-garde architectural speculation might attempt to extrapolate from current political realities via reference to advancing political trends and tendencies without collapsing into fruitless utopian speculation. This is what I am trying to do in my recent speculations about the prospects of an unleashed parametric urbanism under the auspices of a radical anarcho-capitalist societal order. It is of course a subjective judgment call to what extent this kind of speculation is fruitful. In my judgment such speculations are pertinent not only if the realisation of anarcho-capitalism is a realistic prospect, but due to the fact that it extrapolates current tendencies and is thus informative even for current conditions or more modest movements in the hypothesised direction.

In contrast to leftist inspired architectural speculations that imagine the reversal of the process of market liberalisation of recent decades, harking back to the 1970s, an anarcho-capitalist inspired architectural speculation radicalises manifest tendencies. I would argue that this is not only more realistic but also potentially a more fertile engine of architectural invention because it allows us to project into uncharted territory. The architectural competition for Liberland offers a stimulating opportunity in this respect.

However, while such speculative design research is both politically and architecturally stimulating, the primary task I have set for myself for the time being is to push parametricism into the mainstream, within the current political context, a task that is as eminently feasible as it is increasingly urgent for the thriving of our urban civilisation.

I assume by 'speculations imagining the reversal of market liberalisation' you refer largely to the work and influence of Pier Vittorio Aureli, both in academia and through his office Dogma (with Martino Tattani). As far as you reside from each other on both a political and architectural spectrum, you share a commitment to architecture itself, unlike the work that is touted as architecture's current vanguard. For example, in 2015, Assemble was given the Turner Prize and Alejandro Aravena the Pritzker, architecture's most prestigious award, in addition to being appointed as the head curator of the upcoming Venice Biennale for

Architecture. Aravena's 'urban do tank' Elemental is known for its participatory design practices; the theme and title of the biennale is Reporting from the Front. In the wake of these announcements, you announced the 'PC takeover of architecture is complete', continuing a line of critique that you also raised in connection to the recent Chicago Architecture Biennial that highlighted a number of 'socially engaged' architectural projects and practices. Could you expand on this? Instead of radicalising, extrapolating or resisting current conditions, are architecture's — or rather that of its supposed front line's — ambitions confined within those of Big Society?

With your questions you poke into a most treacherous hornets' nest, but we have to poke and stir it!

Pier Vittorio Aureli is only one of so many in architecture who argue from anti-capitalist premises as if from an unquestionable intellectual or moral high ground. Unfortunately, this anti-capitalist bias is dominant especially in the intellectually ambitious segments of our discipline. However, I respect Pier Vittorio, not because I share a commitment to 'architecture-in-itself' — I do not — but because I respect that he is a designing architect that teaches design on the basis of a theoretical position that encompasses both an account of society and a conception of architecture's role within it. While his conceptions are fallacious, his practice has at least the right kind of ingredients required for an ambitious architectural practice. So I appreciate his ambition, although I consider the specific ingredients he is wedded to and the results he cooks up to be widely off the mark. I also respect that his teaching is still committed to building design when so many of our teaching colleagues defect to observation and 'political' debate, leading at best to 'artistic' or 'conceptual' provocations.

All the things you allude to in your question point to a problematic politicisation of architecture. This would not *per se* be detrimental if it did not threaten to swamp and usurp most of architecture's discursive arenas. Another problem is the PC tilt of this politicisation where everything leads to the safe consensus around well-rehearsed humanitarian concerns. This not only flattens and trivialises our discourse but does so with a moralising force that makes it hard to escape this normalisation.

Again, politicisation is not *per se* negative. It could be energising. The historical background for the increasing politicisation of our discipline is twofold: firstly, we have been witnessing a long-term secular politicisation of all aspects of society, in the context of an ever-increasing capacity for society-wide communication; secondly, we are witnessing a marked acceleration of society's politicisation since the 2008 financial crisis, the ensuing great recession, and the European sovereign debt crisis, events which re-politicised myself as much as everybody else. These events had various political repercussions, like the Occupy movement, the 'Arab spring', and the upheavals in Europe's political landscape in reaction to controversial austerity programs.

In this historical context, the politicisation of our discipline must be seen as a perhaps inevitable moment in the politicisation of all aspects and domains of societal life, implying that any further attempt to deny, resist or repudiate this is futile. However, what we must not accept as inevitable is the pretentious diletante quality of this debate, its PC tilt, and its consequently regressive nature. We must repudiate the all-too-often automatic anti-capitalist and anti-business bias that informs most contributions to the politicised architectural discourse. Even if the politicisation of our discipline has progressed to a point where political engagement becomes inevitable, there must remain a space for an architectural discourse that discusses and evaluates the best architectural solutions to societal requirements as they are posed today under current political and societal conditions,

however questionable they might seem from certain political perspectives.

In particular, we must not allow the most effective contribution and the proper purposes of our discipline to be diverted by 'urgent' or 'humanitarian' issues that seem to trump all other issues due to moral urgency. This is self-destructive populism and as irrational as it would be to send brain surgeons or medical researchers at the frontier of medical science to Africa to distribute urgently needed standard medication.

What can we expect of Aravena's biennale? I am afraid it will continue the unfortunate trend of previous biennales — inclusive of the recent, inaugural Chicago Architecture Biennial — to thematise weighty political and moral issues (like poverty or 'the global housing crisis') and to validate (via its prizes) polemical gestures or documentary engagements with such issues as more important and interesting than the most sophisticated contemporary architectural design achievements at the technological and programmatic frontier of innovation.

I am not saying architectural excellence is in itself a value and that societal concerns do not matter for good architecture. Quite the contrary: I am insisting that architectural theory and thus practice must start with the clarification of architecture's societal function, i.e. with a clear understanding of the built environment's significance for social processes and of architecture's specific role with respect to the progressive development of the built environment. I am indeed arguing that parametricism has to shift its discursive emphasis from technical to social functionality and explicitly demonstrate how its methodology and repertoire are geared up to address the requirements of contemporary social dynamics and institutions.

However, to address architecture's societal function — the innovative spatio-morphological ordering of social interactions in increasingly dense and complex scenarios — the discipline and its most ambitious protagonists have to be cognisant of where the frontier of innovative design research is located, i.e. where the investment of discursive and design research efforts would be most important and productive. In my view, this can only be with respect to the new challenges posed in the most advanced, high value arenas of our world where unprecedented conditions — the new level of density, diversity, complexity, interconnectedness and dynamism in our most productive social institutions — call for original innovations that must draw on the most sophisticated methodologies and computationally advanced design processes. In contrast, the alleviation of issues like the poverty-induced lack of provision of well-established housing standards does not call on the most advanced capacities of the discipline and profession, nor indeed does such an issue even lie within the reach of architectural professionals' powers.

We need to be strategic with respect to where and how we can best employ and leverage our specific disciplinary intelligence. Again, importantly, this position stands independently from my political hopes and recommendations, and in my perspective, parametricism remains architecture's best bet under current political conditions, just as it would remain its best bet under a more libertarian political economy. I believe parametricism is indeed congenial with radical anarcho-capitalism which, in turn, I consider to be our best political bet. But I do not want to politically taint or tie up parametricism by giving the impression that it has a necessary, radical political bias. The function systems of world society coevolve and influence each other without necessary connections or inevitabilities.

My ambition is to innovate my discipline and lead adaptive efforts with respect to the conditions and opportunities of post-Fordist network society. This adaptation must be based on current social, economic and political conditions, and can only risk to speculate moderately forward along salient tendencies.

TIM HECKER LOVE STREAMS

FRIDAY 4 NOVEMBER
THE BARBICAN
LONDON (WITH MFO)



Still Be Here

by Laurel Halo and Mari Matsutoya

illustrations by LaTurbo Avedon and Martin Sulzer

Name: Hatsune Miku

Release: August 31, 2007

Age: 16 years

Height: 158cm / 5ft 2in

Weight: 42kg / 93lb

Suggested Genre: Pop, rock, dance, house, techno, crossover

Suggested Tempo Range: 70–150bpm

Suggested Vocal Range: A3–E5, B2–B3

I'm searching for the drop of a sound

探していた一滴の音

A POP STAR IS USUALLY the product of collective effort. Songwriters, producers, managers, labels, publishers, press agents, vocal coaches, stage parents, booking agents, stylists, promoters, music video directors, other industry players, and fans all come together to drive the voice, face and personality — the pop star — to become extrahuman: to achieve immortality through hit singles and albums. Their songs are explosively resonant with large groups of people, striking the ley lines between catchiness, emotion, fashion and contemporary attitude. Hit songs are sung in herds; used to harvest royalties and sell out stadiums; become banal and fade away; and perhaps, live second lives sampled or covered by the next generation of pop stars. These songs and concomitant catalogues generate timelines of cultural clues, revealing the evolving social dynamics by which common appeal and desire change over time.

Hatsune Miku is unique among pop stars active today in that her song catalogue is the largest of any artist in the history of the world. It may sound dramatic, but the diminutive permanent 16-year-old with body-length teal pigtails has over 100,000 songs in her catalogue. What is also unique about Miku is that these songs are almost entirely written by her fans; Miku literally sings their words for them. She is the face, figure and personality of Crypton Future Media's Vocaloid 2 software. Anyone with the software can program songs for her to sing, chaining syllables to a melody along a timeline, adding moments of melismatic, accented or soft delivery. One can even control the intensity and duration of her vibrato. She is primarily created by her fans, for her fans to consume.

Miku is a typical example of both *doujin* culture in Japan — that is, amateur self-published fan creations based on famous characters — and *nijisousaku*,

literally translated as secondary derivatives.¹ Yet when her fans also create her massive catalogue, it presents a hitherto unseen hybrid of pop, *doujin* and *nijisousaku* culture. She is both the receptive and reflective vessel of her fans; a depository for the emotions, ambitions and talents of would-be pop songwriters, producers and recording artists; a voice singing songs written by the masses, for the masses. Several of her songs have gone on to chart in Japan, and dozens more have millions of views on both YouTube and the Japanese equivalent, Niconicodouga. Fans also produce her music videos: creators have made open-source 3D models of Miku that can be choreographed in the user-generated free-ware program Miku Miku Dance (MMD), both now intrinsic to the whole creation process. Thus both the fan-written and fan-animated videos proliferate.

Crypton Future Media was prescient to identify the viral *doujin* potential of Miku, and has almost entirely allowed unhindered derivations of Miku, provided that they do not harm the character, or hurt or offend anyone. In providing such freedom they not only caused a huge spike in Vocaloid 2 sales, but also a mass explosion of Miku content. Within a few years, Miku herself began to emerge as more than a mascot: she was becoming a pop star with a personality, with brand power far beyond the scope of singing software. During this time various companies including Google, Toyota and Family Mart all featured her in advertisements, and further spin-off products followed, including SEGA's Project Diva dancing video game and Korg's Miku Stompbox vocal effects pedal. And naturally, she gave and continues to give concerts to audiences in the thousands across the world, performing on stage with a live band behind her — as well as to the most personal one-to-one bedroom audiences at home.

Still Be Here is a hybrid performance piece featuring Hatsune Miku, collaboratively created by

1. Often due to the limited number of editions that can be created without fear of copyright infringement, some of these creators even acquire cult status themselves, making the secondary creator as much an artist in their own right, rather than shadowed under the original or official editions of a character. Yet the secretive nature of its distribution can drive the material towards sexual or socially inappropriate and/or prohibited content. *Sailor Moon* is just one of many examples under whose name homoerotic derivative manga literature ('Boys Love') can be found. Positively put, the animated world gives us the opportunity to explore themes and behaviours which may be oppressed and shunned upon in real life, whether it is justifiable or not. The natural negative aspect is the harbouring of violent and malicious imagery; prohibition of the possession of child pornography in Japan only came into effect as recently as 2014, while avid campaigners managed to defend their illustrated format.

five artists from various disciplines: sound artist Mari Matsutoya, composer Laurel Halo, digital artists Martin Sulzer and LaTurbo Avedon, and choreographer Darren Johnston. Our aim was to create a work that reflected on Miku's various parallel identities, in the typical fashion of her creation — networked and collaborative. We came together under the name of Hatsune Miku, to explore a collective existence in a capital-driven society. It sheds light not only onto her, but also onto the protagonists behind her, beyond the screen. With this piece we attempt to scrub the components of her illusion, of her stardom, of her nature as a collective fantasy, all of which is born out of a Yamaha Vocaloid software script, and a character licensed under Creative Commons by Crypton Future Media.

The format of *Still Be Here* lies somewhere between concert and documentary, using both original and existing visual, lyrical and musical materials; the piece plays out in the precarious grey zone inhabited by so many anonymous producers who use derivative material, including Miku's *doujin* creators. Each of the songs in the piece are original compositions, but the lyrics are taken from many sources: the folk song underlying a common crosswalk song in Japan; fragments of various Miku songs; a love letter from a fan; slogans from the corporations who have used her as a mascot. Her dance sequences were motion-captured from a live dancer and grafted onto the beautiful Miku model by illustrator Tda, using pop music videos as reference points for her movement. Her environment is made of various components of MMD stages and props, freely available in exchange for accreditation.

When the Vocaloid software became available to the public for the first time, Miku's songs were written through 'her' perspective, with lyrics from her 'personal' experience defined by her age, status as a not-yet-realised pop star, and relationship with her 'master' songwriters and producers. Assumptive teen-girl issues — love, longing, cute boys, general insecurity — were mixed with the existential issues that come with being a virtual pop star: probing the relationship between herself and her songwriters; her ambitions to hit number one on the charts; her continuing relevance despite her solely digital experience. There is a fair amount of angst over impermanence and power imbalance within her songs; the relationship between Miku and her 'masters' is often fraught — her wanting to succeed for them, yet never actually feeling up to the task. Certain songs like 'The Disappearance of Hatsune Miku' even go so far as to illustrate a suicidal,



self-hating Miku, desiring to be no more, to be deleted (paralleling, perhaps, the common desire to scrub the Internet of one's 'true' identity). Just like a real celebrity, we see Miku work through various phases of identity crises that are retraceable through her lyrical deposit. This perspective is apparent in the fact that the earliest songs on iTunes using Vocaloids are credited simply to Hatsune Miku, and the producers' names are nowhere to be seen. It is only later on that the songs began to be credited as: [producer's name] ft. Hatsune Miku; and then further on, just the producer's name.

I wake up in the morning
 And immediately I start to think of you
 I decided to cut my bangs
 Just to hear you say, 'What happened?'
 朝目が覚めて
 真っ先に思い浮かぶ君のこと
 思い切って前髪を切った
 「どうしたの」って聞かされたくて
 — ryo, 'Melt'

USERS GRADUALLY GOT USED to the idea of Miku as a packaged singer, and through this shift, she was able to achieve a certain level of autonomy. The lyrics were no longer tied to her assumptive world view, but rather expressed those of the producers. Consider the fact that many Japanese music journalists (including Tomonori Shiba, author of *Why Did Hatsune Miku Change the World?*) identify the song 'Melt' as a huge turning point for the *Hatsune Miku-genshou* (Hatsune Miku phenomenon). In 'Melt', Miku depicts a shy girl who gets her bangs cut so that her boy will notice; a generic but real-world experience that is not specific to Miku's perspective as a virtual pop star. The autonomy here is her escape from the puppetry on behalf of the creators, and she is recognised instead as simply a singer, with lyrics both unchained from her experience and possessing complicated human metaphoric expression. This was a huge moment for the original developers of the Vocaloid software, as it meant that she was, for the first time, recognised not just as the digital songstress trapped in your computer, but as a more universal pop star figure.

At the same time, because of its accessibility to the general public, 'Melt' sparked a chain reaction of another kind of song production, namely the *utatemita* and later the *odotemita* songs (literally translated as 'I had a go at singing it' and 'I had a go at dancing it'), where amateur creators started to sing and dance Vocaloid songs as humans. There are countless Niconicodouga and YouTube videos to be found of young wannabe singers and dancers performing known

Vocaloid songs, often in elaborate costumes and back-grounds, with thousands of views. It does not come as a surprise, then, that many Vocaloid songs have gone on to top the charts of most-requested karaoke songs. It has now become completely routine for the Japanese karaoke-goer to learn the melodies and lyrics of the Vocaloids by heart so they can score high points when they perform (Japanese karaoke systems have scoreboards for the more serious customers).

I finally reach you
 君にたどり着く

IN *STILL BE HERE*, THE SONGS and concurrent 'music videos' are interspersed with interviews from Miku experts: media professor Mitsuhiro Takemura, Miku's father-figure and creator Hiroyuki Itoh, cosplayer Rudolf Arnold, and an artist currently researching Miku cosplayers, Ann Oren. The interviewees all appear on the screen as different variations of Miku as they speak, again breaking down the illusion of a specific Miku concept to a general or a multiple, and each give their own opinion. The media professor Takemura contextualises her somewhere between Benjamin's concept of phantasmagoric sex workers and McLuhan's 'angelism', a dystopian trap in which adhering solely to concepts can cause a gradual rejection of the flesh. Her original creator Itoh describes her matter-of-factly as a 'character product', a business venture designed to captivate the imagination of the consumer in order to proliferate copies of the Vocaloid software. The cosplayer, Arnold, has a perhaps more nuanced take: a male mathematics teacher from Germany in his 60s, he is interviewed in his classroom in full Miku costume, describing the costume's various James Bond-like weapons — where a standard Miku costume might be a lightly-teched-out schoolgirl with teal facial makeup details, his Miku is a patent leather, near-mecha fighting machine with polarised face mask and cybergoth dreads. (There are tender moments in the video interview: the mechanical sound of his Miku's 'weapons' unfolding from the torso, his 'jet packs' knocking into a student's desk.) Oren describes such cosplayers' actions as exhibiting 'character love', and notes how this extreme fandom is often untethered to gender or age.

We also move through spatial dimensions in the piece. Arnold's segment is the only point at which real-life footage is shown, whereas the rest of the piece consists of rendered realities. Miku on centre-stage sways in between these realities in what we could perhaps call 2.5D, a dimension between animated and actual that is becoming increasingly popular in Japan.

Moving in and blurring the gaps between the two-dimensional character and the real life fan is a central facet of *doujin* and manga culture. Consider that Saki Fujita, the voice actress behind Hatsune Miku, has herself become something of a celebrity, as have the other voice actresses behind the Vocaloid series, regularly performing on stage for the Vocaloid fans — and on request, occasionally and rather eerily slipping into their Vocaloid character's 'real' voices. Further to this blurring is the common practice of cosplay and the unending quest to 'become' the beloved character. Now there are slip-on head-dresses which can instantly transform you into whomever you please; it no longer suffices to wear elaborate wigs, costumes or makeup to emulate the characters — there is too much of a jump between human and character. The effect is at its best when photographs are taken and they are reduced back into two dimensions. More 2D, more real.

This jarring gap sheds some light onto the criticism *Still Be Here* faced on some Vocaloid fan forums. To some, it was an unfaithful adaptation of their pop princess, untrue to her original form. Some worried about how the general audience would perceive her (and therefore the cult following around her) if this were to be their first encounter. For others, the light shows, the outlandish costume changes, the catchy famous songs, and other hallmarks of her usual shows were missing. On the other hand, there were many fans who embraced the idea of a fluid, shape-shifting Miku, defending the culture of difference. After all, one glimpse of the MMD model download page will confirm that a host of user-generated versions can be found (including but not limited to baby Miku, mama Miku, policewoman Miku, even male Miku). In making the piece, we had touched on the nerve-endings of a powerful illusion, and thus found ourselves caught in the crosshairs of Miku's most ardent fans, those passionate individuals so essential to her ouroborotic celebrity.

What, then, would constitute Miku's 'original' form? Just as snowflakes need only adhere to their crystalline, hexagonal form, so too is Miku simply a set of parameters as outlined by Crypton Future Media. Her prototype might in this case correspond to the official drawings by the illustrator, Kei, but the vast sea of derivations encouraged by the Creative Commons License ensures that she will never be reduced to a single depiction. This multiplicity is her power, and this became the focus of our piece. It is unfortunate that so much of the literature around her tends to concentrate on the 'victim' aspect of her being, because by her very nature she rises above any one subjectivity or emotion, and is quite able to rationally point out certain flaws in our own society — an obvious one being the treatment of female icons as objects.

Entry

We start by stating Crypton Future Media's basic terms of Hatsune Miku's use (the Piapro Character License, or PCL) at the point of audience entry into the performance space. The concept of 'manners' for the use of Miku and other Vocaloid characters is quietly transmitted by a voice on repeat as the audience takes their seats. The repetition is a positive reinforcement, a parallel perhaps to the types of warnings displayed before amusement park rides.

~~~~~

## Introduction

Here the introductory montage demonstrates her seemingly endless iterations and allows a potentially uninitiated audience to see her multiple realities as a pop star, hi-res brand mascot, and lo-res amateur fan creation. It is in the introduction as well that we place a priority on the creators behind her.

~~~~~

Snow Scene

The lullaby sung here, similar to the first ever song sung by a computer, 'Daisy Bell (Bicycle Built for Two)', is a well-known playground song whose melody is frequently used at pedestrian crossings. The song and its lyrics have different interpretations, and its origins can only be speculated; the author is unknown and is therefore unbound by copyright law. Miku appears for the first time out of the heavy snow, dancing a traditional dance, never quite facing the audience.

~~~~~

You may go in, you may enter
通りゃんせ 通りゃんせ

Which way is this narrow pathway?
ここはどこ細道じゃ

This is the narrow pathway of the Tenjin shrine
天神さまの細道じゃ

Please allow me to go through
ちっと通してくださいんせ

Those without good reason shall not pass
御用の無いもの通しやせぬ

To celebrate the seventh birthday of this child
この子の7つのお祝いに

We've come to dedicate our offering
(to offer our *ofuda* here)
お札を納めに参ります

Going in is easy, but returning is scary
行きはよいよい帰りは怖い

It's scary, but...
怖いながらも

...you may go in, you may pass through
通りゃんせ 通りゃんせ

~~~~~

Self-Recognition

Many of the earlier user-generated Miku songs portray a simple master and slave, puppetmaster and puppet relationship. Here in the piece, her self-discovery and disbelief turn to self-aware indifference, just as she starts to grasp the function of memory and emotion.

~~~~~

Alone, I press the button
一人ボタンを押してみた

Only the voice was left
声だけが残った

It dripped down from the palm of my hand
手のひらからこぼれ落ちた

I knew the answer
答えはわかった

My whole heart and my entire body are mirages
心ごと体ごと全部幻

Whispered softly
そとつつぶやいて

Far away
遠くで

Connecting everything together
すべてつなげてく

I finally reach you
君にたどり着く

Unable to say anything, dumbfounded
何も言えず立ちすくむ

That melody repeats itself
繰り返すメロディー

On that crumbled way I walked with you
君と歩いた崩れた足場

It's pouring down
土砂降りの雨

And yet I was so happy
でも嬉しくて

Through the spaces of the hand that covered
かざした手の隙間に

It's a coincidence, and yet also fate
それは偶然で運命で

The emotions turn to tears
思いは涙に変えてく

When the small noises that were asleep
in my chest
胸の中で眠っていた小さなざわめきが

I firmly tied my trembling hands
震える手を強く握って結んだ

It's so easy, and yet so difficult
それは簡単でもとても困難で

Unable to believe it, not wanting to believe it
信じられなくて、信じたくなくて

Play me more as you wish
君が思うままあやつっていてよ

~~~~~

The Love Song

Fatal differences are realised but accepted, and she continues to sing. Amongst all the postulations, the true identity of Miku (to us) is an amalgamation of everybody who has ever expressed an opinion on her. But ultimately she is an instrument, a tool for everybody's expression. Miku's own character is further synthesised with that of the musician behind — the lyrics are more generic, standardised and relatable to the public.

~~~~~

One-by-one they build up...
ひとつひとつずつ立っていく

...the cityscape
町並み

Because I breathe life into them, they go up
私が息を吐くたび上がっていく

While stumbling, reaching for the sky
転びそうになりながら空に触れる

It's reaching, right?
届いてる？

‘Why do you look at the sky with such sad eyes?’
どうしてそんな悲しい目で見るの？空を。

Although I have prepared to become a super star...
アイドルになることを決めたの

...such a high-pitched tone hurts
でもそんな高音は痛い

Try to win over my heart a little more
私の心を揺らしてよ

Being with you
あなたと一緒にいて

Story with no end
終わりのない物語

I wonder if you remember...
あなたは覚えてるかな

...that day I left you
私がいなくなった日

I will keep singing until you smile
笑顔になるまで歌い続けるよ

Not knowing left or right I stand struck
右も左も分からないまま立ちすくむ僕

These hands will never grasp your hands
この手はあなたの手を握ることなく

Both of us accepted defeat
僕らは負けを認めていた

I wonder if it's reaching
届いてるかな

Resound my beautiful *legato*
奏でる私のレガート

Smile to the world
世界に微笑みかけ

You have to play with me, or else I might freeze
私と遊んでくれないと凍ってしまいかもしれない

I would not yet be satisfied
私はまだ満たされてない

I'm a little embarrassed but I will sing
恥ずかしいけど歌ってるよ

The older me I imagined
あの頃描いた大人の自分は

And the layers of norm pile up
そして重なっていく新たなノルマ

I want to convey this feeling
この思いをあなたに伝えたい

Even if you stretch out your hand,
I can't reach it anymore
君が手を伸ばしても届かないよ

I'm searching for the drop of a sound
探していた一滴の音

Let me sing one more time
もう一度歌わせてね

I won't tell anyone
誰にも言わないから

Whatever song it is, I'll sing it
どんな歌でも歌うよ

That thing that fell from my hand...
私の手のひらからこぼれたのは

...was the thing I was looking for
探していたものだった

Words are unnecessary
言葉はいらないから

That thing that fell from my hand...
私の手のひらからこぼれたのは

...was probably pre-empting the end
きっと終わりを告げたものの

Words are unnecessary
言葉はいらないから

That thing that fell from my hand...
私の手のひらからこぼれたのは

...was what I was looking for in the first place
探していたものだった



## Working for the Company

Her image is by now so strong and commercially viable, companies are clawing to get her on their advertising campaigns. In the outro, she churns out and sings a handful of company slogans to which she is tied.

~~~~~

Loved by as many people as possible
一人でも多くの人に愛される

Starting with the story of Werther and Charlotte
フェルテルとシャルロットの物語を始めに

Lotte-san
ロッテさん

Creating emotions together with you
感情を共に作るう

My maker
私のメーカーは

YAMAHA
ヤマハ

Let's enjoy the digital world
デジタルの世界を楽しもう

Caring for your eyes
目のケアは

Rohto
ロート

Alone is fun
一人で楽しい

Together is fun
みんなで楽しい

A new experience through interactivity
あらゆるインタラクティブを通じて新たな体験を

Sending music around the world
音楽を世界に配信するよ

The computer that sings
パソコンが歌う

Like an angel's inadvertent and pure smile
思わずほころぶ天使の様な純粋な笑顔

Healthy times are thanks to...
健やかな時間を過ごした時は

...Morinaga
森永のおかげ

Closest to your feelings
あなたの気持ちに一番近い

Familymart
ファミリーマート

On the internet or at the convenience store
ネットでもコンビニでも

Always there when you need it
使いたいときにすぐ使える

Online games and downloads
オンラインゲームやダウンロードも

V-Preca
ヴイプリカ

From today to the future
今日から未来へ

Stomp box developed by Korg
ストンプボックス、コルグの開発

Those expressive eyes reeling you in with lure
表情豊かなめ引き寄せる魅力いっぱい

That dreamy collaboration is back again
ドリーミーなコラボがまた来ました

Dolfie Doll
ドルフィードール

If this world could stay the same forever...
この世界がいつまでも同じでいられば

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All **Hatsune Miku** images © LaTurbo Avedon/ Martin Sulzer, and Tda, Crypton Future Media.

# The Last Messiah

by Peter Wessel Zapffe

translation and introduction by Trine Riel

THE GOTHIC WRITER THOMAS LIGOTTI has called the obscure Norwegian philosopher Peter Wessel Zapffe's thought 'perhaps the most elementary in the history of philosophical pessimism [...] it rests on taboo commonplaces and outlawed truisms'. Ligotti's own book, *The Conspiracy Against the Human Race*, was described by philosopher Ray Brassier as 'perhaps the most sustainable challenge yet to the intellectual blackmail that would oblige us to be eternally grateful for a "gift" we never invited', itself a relentless tirade against normative optimism that is deeply indebted, and also dedicated, to Zapffe. The key text for Ligotti's *Conspiracy* is Zapffe's antinatalist manifesto, 'The Last Messiah', a short and peculiar essay from 1933 proposing why life is indeed no gift but a nightmare.

Human existence, for Zapffe, is nothing but the chronic spasm of a reeling, defunct species whose surplus of consciousness has made it unfit for life. Zapffe compares our situation to that of the *Cervus giganteus*, a giant deer of the paleontological era that at one time was thought to have gone extinct due to its antlers becoming too large. The overdeveloped human intellect, which Zapffe calls 'an abomination, an absurdity, an exaggeration of disastrous nature', can in a similar way be seen as the result of a blind, and highly unfortunate, organic mutation — unfortunate because it makes life existentially unbearable and categorically unsustainable.

But 'The Last Messiah' also provides a quite concrete, final solution to our predicament, namely the voluntary withdrawal of our species into the dark night of extinction. Contrary to most apocalyptic visions, Zapffe's heretic eschatology does not lend much bravado to the event of total obliteration. Instead, he proposes the anticlimactic process of a gradual phase-out. Affirming the inherent messianic tonality and self-contradictory nature of any proactive antinatalist programme, the text ends with an inversion of the biblical command: 'Be infertile and let the earth be silent after you' — an instruction which Zapffe himself adhered to, leaving no descendants after his death in 1990.

Despite the essay's awkwardness, conservatism, misogyny, technophobia, and so on, Zapffe's point remains clear: if a desert island is no tragedy, why is a deserted planet? H.P. Lovecraft once asked, 'Why hasn't anyone written a story from the view that man is a blemish on the cosmos who ought to be eradicated?' More than as a philosophically sound argument, 'The Last Messiah' can be read as such a story.

*ONE NIGHT IN TIMES LONG PAST, man awoke and saw himself. He saw that he was naked under the cosmos, homeless in his own body. Everything dissolved before his probing thought; wonder upon wonder, horror upon horror, sprouted forth in his mind.*

*Then woman, too, awoke and said it was time to go out and kill something. And man grabbed his bow, fruit of the union between spirit and hand, and ventured out beneath the stars. But when the animals appeared at their waterholes where he awaited them from old habit, he no longer felt the tiger's leap in his blood, but only a great psalm to the brotherhood of suffering between everything that lives.*

*That day he did not return with prey, and when at the next new moon they found him, he sat dead by the waterhole.*

WHAT HAD HAPPENED? A breach within the unity of life itself, a biological paradox, a monstrosity, an absurdity, a hypertrophy of catastrophic nature. Life had overshot its target and blown itself apart. A species had been too heavily armed — its genius made it not only all-powerful in the external world, but equally dangerous to its own well-being. Its weapon was like a sword without grip and safeguard, a double-edged blade cleaving everything; anyone who wished to wield such a sword must first take hold of the blade and thus turn one of its edges against himself.

Despite his new eyes, man was still rooted in matter, his soul was woven into it and subordinated to its blind laws. And yet he could look upon matter as a stranger, position himself amongst other phenomena, comprehend and locate his own vital processes. He comes to nature as an unwanted guest; stretching his arms out in vain, pleading to be reunited with what created him. But nature no longer responds — it had performed a miracle with man but ever since disowned him. He has lost his citizenship in the universe; he has eaten from the tree of knowledge and been expelled from paradise. Man is powerful in his immediate world but curses this power bought in exchange for his soul's harmony, his state of innocence, his peaceful existence within life's embrace.

There he stands with his visions, betrayed by the universe, in wonder and in angst. The animal too knew angst, during thunderstorms and under the lion's claws. But man came to feel angst for life itself — indeed, for his very own being. Life — for the animal it is to feel the forces swell, to rut and play and struggle and hunger, and then, in the end, to stoop to the law of necessity. For the animal, suffering is limited to itself. For the human, suffering breaks open an angst for the world and a despair of life.

As the child begins its journey down life's river, the

waterfall of death is already roaring, moving ever closer and wearing, wearing away at its joy. The human looks out across the earth and sees it breathing like a giant lung; when the earth exhales, graceful lives stream from all its pores, stretching their arms towards the sun, but when it inhales, a lamenting moan passes through the crowds and corpses whip the ground like hail. Not only did man see his own end, but graveyards were turned inside out before his eyes, the terrible, decomposed bodies screaming at him with the buried, wretched cries of millennia. The veil of the future was torn and revealed a nightmare of endless repetition, a senseless mire of organic matter.

Through the gate of compassion, the suffering of billions traverses man; all that occurs sniggers at what he takes as his deepest, most profound principle: the demand for justice. He sees himself originating in his mother's womb, he holds up his hand and it has five branches: 'Where does this accursed number five come from and what has it to do with my soul?' He is no longer self-evident to himself — his own body fills him with horror: 'This is you, you extend to this limit and no further.' He carries a meal inside him, yesterday it was an animal running freely about: 'Now I have absorbed it, made it a part of myself; where do I end and where do I begin?' Things chain themselves together in cause and effect, and everything he attempts to grasp dissolves before his probing thought. Soon he sees the mechanisms even in what he holds most dear: the smile of his beloved, for example; there are other smiles too, like that of toes peeping through a torn boot. Eventually, the qualities of all things are nothing but qualities of himself — nothing exists except himself, every line leads back to him, the world is nothing but a ghostly echo of his own voice. He jumps up with a loud cry and wants to vomit himself and his tainted meal up on the ground. He feels insanity approaching and wants to seek refuge in death before the option is lost to him.

But as he stands on the brink of death, he suddenly understands its nature too and the cosmic scope of this next step he is about to take. His creative imagination constructs new horrifying possibilities behind the curtain of death and he sees that there is no escape even there. And now he can finally trace the full contour of his own bio-cosmic situation: a defenceless prisoner of the universe, detained to incur nameless possibilities.

From this moment on, he is in a chronic state of panic. Such a feeling of 'cosmic panic' is fundamental to any human mind. In this regard, the species would appear to be predestined for annihilation, since any effective attempt at the preservation and perseverance of life is ruled out when all of an individual's attention and energy is spent enduring or warding off the catastrophically high pressure within his own core. That a

species becomes unfit for life by the over-development of one single faculty is a tragedy which has not only befallen the human being. It has been suggested, for example, that a certain type of deer of the paleontological era became extinct because their antlers grew too large. Mutations of these kinds must be taken as blind; they operate, are thrown forth, without any consideration for their immediate milieu. In depressive states, the mind may be experienced as an image of such antlers which, in all their splendid might, force their bearer to the ground.

A giant deer, 1870

WHY THEN HAS THE HUMAN RACE not already gone extinct in great epidemics of madness? Why is it that only a relatively small number of individuals perish under the intolerable pressure of life — perish from an intellect that gives them more than they can bear? Our spiritual and cultural history, as well as the observation of ourselves and others, provide a basis for the following answer: most humans learn to save themselves by artificially reducing the content of their consciousness.

If the giant deer, at appropriate times, had managed to break off the top ends of its antlers, it might have persevered for a while longer. In fever and perpetual pain, certainly, and in betrayal of its own essence, of its singularity as such, given that by nature it was allotted the fate of being a great antler-bearing creature rather than a mere field animal. What the giant deer would have won in terms of prolonged lifespan, it would have lost in meaning, in existential worth. It would have been a continuance without hope; not a continuous affirmation of its own essence, but a self-destructive race against its blood’s sacred will.

That the goal of life equates to its own annihilation is, for the giant deer as for the human, the tragic paradox of existence. In devoted self-affirmation, the last *Cervus giganteus* bore the mark of its species until its end. The human on the other hand saves itself and continues. It performs, to use a renowned expression in an extended meaning, a more or less conscious suppression of its damaging surplus of consciousness. As long as we are awake and active, this process is in more or less constant operation; it is a condition for social adjustment and for what is commonly called a ‘healthy’ and ‘normal’ life in general.

Psychiatry today operates under the supposition that what is ‘healthy’ and life-viable is in itself the height of personal achievement. Depression, ‘existential angst’, eating disorders, etc. are, without exception, viewed as signs of a pathological, sick condition and are treated accordingly. In many cases, however, these phenomena are indications of a deeper, more unmediated sense of life — bitter fruits of the insights of thought or feeling, that are themselves the root of the anti-biological tendency. It is not the soul which is sick, but the defence mechanisms that either fail or are rejected because they are taken, correctly, as a betrayal of the individual’s highest ability.

All of life, as we see it before our eyes today, is permeated from inside to out by social and individual mechanisms of suppression; we can trace them all the way down to the most mundane formulas of everyday living. They amount to a mottled and perplexing multitude, but we can with some justification point to at least four main types of suppression mechanism, which of course can appear in an endless variety of combinations: *isolation*, *attachment*, *distraction* and *sublimation*.

By isolation I am here referring to the arbitrary expulsion of any disturbing or destructive thoughts and feelings from one’s consciousness, as expressed in the saying by Engström: ‘One should not think, it only causes confusion.’ This can be observed in an expanded and almost brutal form in certain doctors who, in order to protect themselves, only perceive the technical aspect of their profession. This mechanism may relapse into

pure callousness, as with thugs or medical students who attempt to oust any sensitivity to life’s tragic aspects by means of violence (e.g. playing football with cadaver heads).

In the social interaction of daily life, the mechanism of isolation is expressed in the customary, mutual agreement to conceal the facts of life from one another. First of all from the child, who is not to be frightened senseless by the life it has only just begun, but should be allowed to keep its illusions intact until it is old enough to handle losing them. In return, the child is not to bother the adults with inappropriate references to sex, shit and death. Between the adults themselves, rules of ‘decorum’ apply (one obvious manifestation of this is the procedure by which a man crying in the street is removed by the police).

The mechanism of attachment is equally present from the early stages of childhood: the parents, the home, the neighbourhood — all of these attachments are taken for granted by the child and give it a sense of security. This stable sphere of experience values is the first and perhaps happiest form of protection against ‘cosmos’ that we will ever know throughout our lives, and here unquestionably lies an explanation as to the much discussed ‘infantile bond’ (whether this concept is also sexual in nature is of no importance in this context). When the child later discovers that all these attachments are as ‘arbitrary’ and ‘impermanent’ as anything else, it experiences a crisis of utter confusion and anxiety and is immediately in search of new ones: ‘In the autumn, I’ll be going to high school.’ If, for some reason, the exchange of one attachment for another does not succeed, the crisis can enter a life-threatening stage, or there can occur what I call ‘attachment spasms’ — one clings to one’s already dead experience values and hides as well as possible, from oneself and from others, that they are defective, that one is spiritually bankrupt. The result is permanent insecurity, feelings of inferiority, overcompensation and nervousness. If this condition falls under certain existing categories, it becomes the object of psychoanalytical treatment whereby the successful transition to new attachments is attempted.

The attachment mechanism can be defined as an instalment of fixed points within, or as the construction of a wall around, the fluid chaos of consciousness. This process usually takes place unconsciously but can also occur by fully conscious means, as in when one ‘sets oneself a goal’. Attachments that are viewed as beneficial for the common good are met with approval — someone who ‘sacrifices himself’ for his attachment (for the company or for a cause) is studied as a role model. He has managed to create a sturdy bulwark against the dissolution of life, and others may benefit from his strength by following his example. In a brutalised form, as a fully deliberate act, this is expressed in the formula of certain *bon vivants*: ‘Marry in time and the walls will appear all by themselves.’ In this case a necessity is established in one’s life; one deliberately allows for what is considered an evil — marriage — in order to acquire a supporting crutch for the nerves, a high-walled container for an increasingly porous life-attitude. Ibsen’s characters, Hjalmar Ekdal and Molvik, are glowing examples of this — the only difference between their attachments and those of society is that the former is unfruitful in a practical-economical sense.

Every cultural and social unit is but one large, rounded structure of attachments built atop the basic ideas, the foundational supports, of a culture. The average person makes do with these shared cultural supports which his personality builds automatically, while a so-called ‘person of character’ has finished a more extensive construction, more or less fully dependent on the inherited, collective foundations (god, the state, destiny, the law of life, the people, the future). The closer any part of the structure lies to the foundational supports, the more dangerous it is to tamper with, and commonly a safeguard is established via laws

and punishments (inquisition, censorship, conservative attitudes, etc.).

The sturdiness of each structural part depends on one of two things: that its fictive nature has not yet been realised, or that it is recognised as necessary in spite of this realisation. This is the reason that even atheists uphold the teaching of religion in schools; they see no other available means for making children adhere to socially acceptable reaction patterns.

As soon as someone realises the fictitious or unnecessary character of any part of the structure, he will attempt to exchange it for new ones (all truths have, as they say, a limited life span), and from this springs all our spiritual and cultural conflicts which, together with economic competition, constitute the dynamic content of world history.

The lust for material goods or power is not, essentially, driven by the immediate pleasure that wealth affords — nobody can sit on more than one chair or eat himself more than full. The existential value of wealth is that it sets a great variety of possibilities for attachments and distractions at the owner’s disposal.

For the collective as well as individual attachment structures, the collapse of any one part brings about a crisis, which can be more or less serious in nature according to its proximity to the foundational supports. In the internal spheres, where one is protected by the outer bulwark, such crises happen daily and are relatively painless (what we call ‘disappointments’); here it is even possible to play around with one’s valued attachments through, for example, jokes, jargon or alcohol. During this kind of play, however, one can cause serious damage by unwittingly opening a crack all the way through to the foundations, and in the blink of an eye the situation changes from light-hearted to macabre. The horror of existence stares us blank in the face and we sense, in one devastating blow, that all souls are hanging by their own web and that a hellish abyss lurks beneath.

Replacing the existing supports, the foundational ideas of a culture, is rarely achieved without intense social spasms and the risk of total disintegration (reformation, revolution). During such times, individuals are forced to fall back on their own capacity for constructing attachments, and consequently the number of those unable to cope is likely to increase. The result is depression, excess, suicide (as seen with the German officers after the war [WWI] or the Chinese students after the Revolution).

Another weakness of the structure follows from the fact that in order to fend off the various imposing dangers, it becomes necessary to lay down highly disparate supports. When superstructures are then built on top of these, it will eventually result in conflicts between incommensurable sets of values and feelings. This creates crevices which allow for desperation to seep in. In such cases, an individual can be possessed by the thrill of destruction, he or she dismantles the whole of the artificial life-support system, and in delightful terror sets out to make a clean sweep. The feeling of terror is caused by the loss of all comforting life values, while the feeling of delight stems from a reckless yet harmonious identification with the deepest secret of our being: its biologic unsustainability, its incessant disposition for annihilation.

We love our attachments because they save us, but we also hate them because they constrain our sense of freedom. At times when we feel strong enough, coming together to ceremoniously bury an outlived attachment is therefore a great source of joy. In this context, material objects often gain symbolic meaning and the festivities are considered expressions of a ‘radical’ life-attitude. When an individual has destroyed all of the perceivable attachments within himself, and is left only with the unconscious ones, he refers to himself as a ‘liberated’ person.

A very popular defence mechanism is distraction. Here, the attention is steered away from the dangerous

outer limits by preoccupying it with an incessant stream of incoming impressions. This mechanism is, as before, typical already in childhood — without distractions even the child is unbearable to itself. ‘Mummy, there’s nothing to do!’ A small English girl I used to know was visiting her Norwegian aunts and constantly appeared from her room asking, ‘What are we doing now?’ Babysitters automatically become virtuosos of distractions: ‘Look, a little doggy!’

With people of high society, distraction is a life-strategy. It may be compared to an airplane — made out of heavy metal but with an inbuilt principle which, as long as it is fully functioning, keeps it in the air. Since the air will hold it for no more than a second, it needs to be constantly moving. Routine may cause the pilot to become drowsy and inattentive, but as soon as the engine fails the situation becomes critical.

The use of distraction is in most cases a fully deliberate strategy. Despair can lie immediately beneath the veneer and may surface at any moment in sudden bursts of sobbing. Once all possible modes of distraction are exhausted a feeling of ‘spleen’, falling anywhere between mild weariness and deadly depression, sets in. Woman, who by the way is less inclined towards existential insight than man and therefore more secure, more at ease with life than him, predominantly makes use of the distraction mechanism.

A significant evil of prison sentencing is that the prisoner is deprived of almost all options for distraction. And since prison in general offers very bad conditions for alternative modes of protection, the prisoner will, as a rule, find himself in perpetual proximity to desperation. Any act he may commit in order to ward off the last phase of this desperate state is therefore justified by the vital principle of self-preservation. At this final stage, he is momentarily experiencing his own soul within the universe, and in such an instant nothing else exists but the categorical unsustainability of existence.

Life panic in its pure, undiluted form will probably only ever occur very rarely, since the protective defence mechanisms described so far are both complex, automatic and, to a certain extent, always active. But its more watered-down forms are still tainted by death — even in these conditions life is only just sustainable under severe tribulation. Death always presents itself as an escape, leaving the possibilities beyond it open. And since the experience of death, as of anything else, depends upon the individual’s subjective feelings and perceptions, death may very well be viewed as an acceptable solution. If it is possible to achieve a certain posture in death, to sustain a gesture even in rigor mortis — that is, a certain form of final attachment or distraction — death is not at all the worst fate. The newspapers, which in this rare case serve the mechanisms of concealment, always manage to invent the least disturbing explanations: ‘It is thought that the cause [of the suicide] was the latest stock market drop on the price of wheat.’ When a man takes his own life in depression, it is an entirely natural death due to spiritual causes. The modern barbarity of attempting to ‘save’ suicides thus rests on a terrifying misunderstanding of the very nature of existence.

Only a small amount of people can do with mere ‘change’, whether relating to work, social life or pleasure. The cultured individual demands that the changes have continuity, direction, progression. Nothing is ultimately satisfactory: one moves on, gathers new knowledge, makes a career. This phenomenon can be termed ‘yearning’ or ‘transgressive tendency’: when one goal is reached, the yearning moves on; it is not the goal that matters, but rather that it has been reached — it is not the absolute height of, but the degree of increase on, life’s upward curve that is of importance. A promotion from private to corporal is in this respect likely to provide greater value experience than one from lieutenant to general. This fundamental

psychological law destroys any foundation for optimism regarding progress.

Human yearning is thus characterised not only as a desire *for* something, but as much as a desire to escape *from* something. And if we use the word yearning in its religious meaning, the latter definition becomes the only viable one. For in the context of religion, no one has ever been quite clear about what it is he is longing for, while always being deeply aware of what it is he is longing to get a way from, namely the earthly vale of tears — that is, his own unsustainable existential situation. If the sense of this situation is the deepest truth of our soul, then it becomes understandable why religious yearning is often felt and understood as fundamental to our being. However, the hope that it is a religious criterion, and harbours a promise of its own fulfilment, is put in a rather miserable light by the observations made above.

Regarding the fourth defence mechanism, or fourth medication for life-panic, sublimation, what occurs is more of a transformation than a suppression. In certain cases it is possible to convert the very agony of life into valuable experiences by stylistic or artistic means: positive impulses step in and skillfully exploit to their own advantage the painterly, dramatic, heroic, lyrical or even comical aspects of the evils of existence.

Such an exploitation, however, can only come about if suffering has already lost its most intense sting, or has not yet come to fully dominate one’s inner life. The mountaineer might here serve as an image: gazing down into the abyss is only pleasurable when the nauseating feeling of dizziness has been somewhat overcome — only then does it become possible for the mountaineer to enjoy the sight. Likewise, to be able to write a tragedy one must, to a certain extent, separate oneself from — betray — the tragic feeling, in order to look at it from a detached, aesthetic point of view. Such a position can also allow for a wild kind of play wherein one invents evermore dizzying levels of irony and self-embarrassment; in a butchery of one’s own self it becomes possible to fully enjoy how the various planes of consciousness have the power to destroy one another. This current essay, in fact, is a classic attempt at sublimation: the author is not suffering, rather he is filling in sheets of paper which are to be published. The self-inflicted ‘martyrdom’ of certain types of lonely ladies is another similar case of sublimation — being a martyr gives them a sense of importance.

Nevertheless, out of the four defence mechanisms mentioned, sublimation is probably the least common.

A young man, 1870

IS IT POSSIBLE FOR INDIVIDUALS of so-called ‘primitive cultures’ to live without all these spasms and mental acrobatics, to live in harmony with themselves, with an undisturbed joy in work and in love? Insofar as they are to be called humans, I think the answer has to be no. At most, we might say that they perhaps exist in closer proximity to the biological ideal than us unnatural people. And that the reason the majority of us unnatural people have managed to persevere, at least up until now, in spite of our tormenting conditions, is precisely that we have found life-support in the least developed components of our nature.

Since our defence mechanisms are only capable of upholding, and not creating, life, the positive foundation of our being must be sought in the naturally adjusted use of our bodies and the biologically effective parts of our soul’s energy, which are all up against severe conditions: the limitation of our senses; the feebleness of our bodies; the hard work necessary for sustaining life and love.

It is upon this limited plot, within these narrow confines, that the expanding civilisation, with its modern technology and standardisation, has such a devastating effect. The interaction with our environment is making still larger parts of our highest mental

abilities superfluous and, as a consequence, souls are left to idleness in ever larger numbers.

The value of technological progress, in regard to human life, must be judged by its ability to afford the human race possibilities in terms of the activation of the soul. It is hard to define this in clearer terms, but the earliest cutting tools can perhaps be seen as an example of such valuable technological inventions.

Any other type of technological invention has no life-value for anyone else but the inventor himself — they represent a violent and ruthless robbery of humankind’s collective experience reserve and ought to incur the most severe penalty if made public against the veto of censorship. One such crime, amongst numerous others, is the use of aircraft for exploring unknown regions. In one single, vandalising swoop, rich possibilities of experience, which could have been shared and enjoyed by many, with each individual discovering his share by his own efforts, are destroyed.

The chronic fever of life, at its current stage, is deeply marked by the situation just mentioned. The lack of natural, biologically anchored soul activities is reflected in the mass refuge into distraction, i.e. entertainment, sports, music — the obsession with ‘what’s in vogue’. Attachments, on the other hand, are presently having a hard time — all of the collective, inherited attachment structures have been perforated by criticism and anxiety; loathing, bewilderment and desperation are seeping up through the cracks. Communism and psychoanalysis, however incommensurable they may otherwise be, are both trying, once again, to construct variants of the old solution with new tactics: to make the human biologically viable by conning it out of its critical surplus of consciousness — by violence and slyness, respectively. In both cases, the overall idea is uncannily logical. But in the end, neither of these tactics will lead to any ultimate solution. A deliberate degeneration of consciousness to a lower and more practically convenient level can of course potentially save our species by a hair, but the inherent disposition of the human race will make it unable to ever find contentment in this kind of resignation, or any contentment at all.

A young woman, 1870

IF WE CONTINUE THESE CONSIDERATIONS to their bitter end, the conclusion is obvious. As long as humankind recklessly continues in the delusion of being biologically fated to succeed, nothing will essentially change. As the population grows and expands and the spiritual atmosphere thickens, the techniques of protection will have to assume an increasingly brutal character. And humans will persist in dreaming of salvation and affirmation and a new Messiah. But after many a saviour has been nailed to the tree and stoned in the city square, the last Messiah shall arrive. Then the man will appear who, as the first and the only one, has dared strip his soul naked and deliver it alive to the outermost thought of the human species, to the very idea of annihilation. A man who has fathomed life in its cosmic ground, and whose pain is the Earth’s collective pain. With what furious screams shall the mobs of all nations demand him killed a thousand times over when his voice, like a cloak, envelops the planet and the strange message has resounded for the first and the last time:

‘The life of the worlds is a roaring river, but the Earth’s is a stagnant pool. The mark of annihilation is written on your brow — how long will you keep fighting the inevitable? But there is one victory and one crown, one redemption and one solution. Know yourself — be infertile and let the earth be silent after you.’

And when he has spoken these words, they will throw themselves upon him, with the nursemaids and midwives first, and bury him under their fingernails.

He is the last Messiah. Like a father’s son, he is the descendent of the hunter by the waterhole.

The original Norwegian text was published in Janus, 1933.

new myths

# *The Invisible*

by Daniela Yohannes



# Phix

by Amy Ireland

illustrations by Rich Foster

*THERE IS NO GOOD WAY to begin this story. Even bad stories can have good beginnings, but this one is neither good, nor beginnable. A story needs a narrative, and narratives need time to behave in a uniform way. Even a time-traveller would experience time linearly, wrote Kant, because human perception functions as a single, continuous flow. This is why there are so many good stories about time-travellers. This story is something altogether different. On those occasions when time becomes too complex and frayed for experience to navigate, space can act as a salve. Perhaps this is what humanity thought when it began to establish resource extraction settlements in the outer Solar System: that the extension into deep space would somehow be a relief from time. If only that were true.*

THE XOSURO ICE MINING CORP settlement YG9 had operated without major disruptions on Kuiper Belt plutoid 4230324 Phix for more than forty Earth years. It answered to the Corporation's command base on Vesta in the main asteroid belt, which meant comms were subject to a minimum delay of nine days, a technological infelicity that had contributed to the demise of several other extraction colonies after encountering what XOSURO referred to as 'depth contingencies', unpredictable and usually unprecedented deep space events that had occurred suddenly and for which the small mining communities had not been amply prepared. These happened more than was economically permissible, but the Corporation considered the losses necessary costs in an incremental research program that was slowly providing invaluable insight into the weirdness of the Solar System beyond the 40AU threshold. Often Vesta would receive a distress signal weeks after a colony had been destroyed. The irony of a call for help that could only ever act as a record of annihilation — the temporal collapse of possibility onto inevitability — never seemed to be registered by the transmitters of the messages, who were only ever full of futile hope. Despite this patently human belief in the maintenance of some integral connection to what passed for them as an idea of home, the possibility of a rescue mission

being issued from Vesta was slim. Since the original deployment in the Kuiper Belt, there had been no physical traffic across the vast, unsettled tract between it and the Main Belt.

Officially, the outer-system settlements had been established to initiate a long-term colonisation program in the trans-Neptunian region, accumulating resources for the construction of future settlements, but there was speculation among the colonists as to whether there was not more to this than XOSURO let on. Whispers that their isolation was not simply an inconvenient effect of the need to procure the obscure minerals and gasses to be found there, but rather a security measure, had begun to spread. The inhabitants of the colony on Phix were less sentimental than their counterparts. Because of its extreme remoteness from the rest of XOSURO's extraction apparatus within the Kuiper Belt, the population was acutely aware of the consequences of its exile and compensated with a heightened level of self-sufficiency. Alongside the standard-issue XOSURO settlement equipment, YG9 had assembled a small scientific R&D unit that supplied the colony with extra food production technology, chemical and biological tools, and additional comms installations. This perhaps accounted for the settlement's longevity relative to the others on the Corporation's payroll. If disaster struck Phix, no one would be sending a distress call. At least, not to XOSURO.

IMOGEN WAS IN THE REC CHAMBER of the Zhou family nuke module, half hooked into the eduEx system and working on one of her designs. She had the aural input unplugged so she could listen out for her insomniac mother padding down the corridor and hide the spec docs she had pilfered from her private XOSURO research database before they were seen. Imogen's mother probably wouldn't be mad about her examining the files — she usually encouraged her daughter's curiosity — but she wanted to keep the fact that she had cracked her mother's access codes a secret for now. Another breach of trust wouldn't go down well, especially since she was already in trouble for attempting

to establish a clandestine comms link with the YG11 colony in a desperate attempt to 'find someone to chat with'. Phix had an information hygiene policy in place that remained just far enough below the threshold of actual tyranny to avoid rousing any serious dissent from the settlers. Transmissions into and out of the colony were monitored, and contact with the other settlements in the Kuiper Belt was generally forbidden. Imogen knew this, and like any teenager, the whole of her motivation to find a way around it could be distilled down to the simple fact of its proscription. She was too smart and too bored for her own good. In 156 Earth days she'd be 17 and could officially start working for the Corporation, but until then, she had to content herself with the tedious XOSURO education modules and the additive designs she created in her spare time and transmitted back to Earth via the slow Main Belt uplink.

Imogen had lived in YG9 all her life. Her parents were part of the original Kuiper Belt deployment, and had shipped out from the Corporation's training compound in 2171 as part of the colony's forty-strong human establishment stock after a long induction program for which they had been genetically designed. They were known as 'seeds' in XOSURO corporate idiolect. Like her brother Kuo and the twenty-six other children in the colony, Imogen had been 'naturally' produced on YG9. They were raised to be proud of their status in the Solar System as the furthest natural born human beings from Earth, although the concept meant nothing to them, having never travelled further than the local radar and docking outposts of Phix's satellite bodies.

Her life had been uncomplicated. Spanning less than one-twentieth of an orbit around the Sun, it consisted of a single, unending stretch of uniform darkness, regulated by the rhythms of the station complex's synthetic lighting system, coordinated to sync with the terrestrial Universal Calendar. Despite the novelty of her distant birth status, she engaged in all the usual activities of standard Earth teen culture. Receiving continuous, although delayed hap-feeds from the Solar System's cultural centre, producing experimental music



from screwed magnetometre samples, and printing out tech and sart objects downloaded from the terrestrial arts node on the station's sophisticated 3D printing equipment. The materials they had at hand were not always right for the models, but some of the outer-system synthetics had other benefits that terrestrial materials didn't. In return, she and Kuo would regularly update their virtual library with their own designs, and transmit them back to Earth and Vesta, where they were rapidly obtaining a following among the inner-system cultural fringe. This wasn't due to what Earthers called 'sleep' — a designator for anything they considered culturally cutting-edge — since Phix's reception of the latest trends was subject to the inner-outer system comm delay and fashions on Earth changed fast, but rather for the sheer novelty of the environment they had been created in. From Earth's point of view, they were parochial, but 'cute' in their innocent reprisals of outmoded terrestrial and inner-system cultural codes. This had always annoyed Imogen, who aspired, more than anything, to understand the mysterious dynamics involved in cracking 'sleep'.

The latest addition was an item of wearable camouflage that Imogen called a Scatter Shell. There were craters on Phix packed with a strange kind of dust native to outer-system asteroids that could be refined and used with the additive manufacturing machines to print objects that reacted to anything in close proximity by perfectly mimicking the refractive properties of their environment. This was why she had hacked her mother's XOSURO research files. She needed to figure out the exact ratios of the alloys produced in the refinement process so she could print the first Scatter Shell prototype.

'Ayy!' A tiny arachnid robot dropped abruptly out of nowhere and hovered just above Imogen's forehead. She jumped, startled, her eyes betraying an intense fear of being caught out. 'You want one of these?' The drone clasped a small chrome-coloured sachet between two of its frontal tarsi.

'Damn it Kuo, you're such a freak!' The screen at the far end of the rec chamber split in two and retracted into the walls. Kuo emerged, grinning.

'Haha. Knew you were peeping Mum's docs. Find anything cool?'

'Wouldn't you like to know?' Imogen retorted, detaching the sachet from the drone and deftly flicking it back across the room in Kuo's direction. It capsized and bounced off a wall before dropping to the floor where it buzzed about feebly until Kuo shut it off. He was still wearing his XOSURO sleep suit, which he and Imogen had augmented with a series of glowing, coloured panels loaded with a script they used to send secret messages to one another. Different combinations on the spectrum had various encrypted affective denotations, depending on the kind of geometrical shapes that needed to be constructed to connect them. Right now, a tightly packed array of blues and violets sketched a virtual arch of distress.

'What are you doing up anyway?' she asked.

'There's something in the sky. Looks weird. Couldn't sleep.' Kuo answered vaguely, trying to play down his alarm.

'Probably just another comet,' Imogen replied. Kuo looked unsure. She tore open the sachet in what she hoped was a gesture of reassuring banality and popped the tiny capsule into her mouth. 'Thanks for the midnight snack.'

'If it's a comet,' Kuo responded, 'it's not passing. I've been watching it for hours. Just keeps getting brighter... or at least, the edges of it keep getting brighter, the middle is just an expanding black dot.'

Imogen encrypted a copy of the material specs she'd appropriated from their mother's database and shut down the eduEx system. 'Show me.' Kuo led her upstairs to the tiny observation deck. A light foil blanket was crumpled over the back of the flexichair and Kuo's headset lay upside-down on the floor, cables

streaming out of it as if it were some bizarre specimen of alien flora. Chrome polygons of eviscerated stimcap sachets littered the space. Kuo had been up here for a while. The deck's twelve borosilicate windows offered a 360-degree view over the station complex. It extended below them in all directions, a tight, modular labyrinth of interconnected domes and corridors, mauve-grey in the starlight. The R&D buildings stood apart in the icy Phix landscape, a feeble suggestion of distant solar rays evacuated of all warmth lent their easternmost facets an eerie greenish hue. Imogen squinted into the blackness above. 'I can't see anything.'

'Here, I'll show you,' Kuo muttered, and removed the blanket from the flexichair so she could sit down and jack herself into the deck's interface. She glanced at him incredulously and then at the debris on the floor.

'Too many stimcaps, more like,' she said, affectionately, knowing that Kuo had picked up the habit of staying up on stims and supplementing the standard corporate education program with his own nocturnal research initiatives from her.

Kuo fiddled with the coordinates and flicked the output feed over to his sister's connection. 'Peep this.' The sky pulsed with the usual waves of gently modulating blackness — an artefact of the telescope relay's refresh rate — and dim globules of light representing Phix's nearest satellites bobbed fuzzily around the edges of the viewfinder. Imogen manually refreshed the feed. The scene was exactly as it always was, only there, right in the middle, was a slim, hard halo of light, encircling a microscopic dark point, just as Kuo had described it. A zero, perched unnaturally in the perpetual Kuiper Belt night. 'See?'

The outer edges of the halo shimmered subtly. She let a tense, unvoiced flow of air escape from her lips, suddenly conscious of the fact that she had been holding her breath, and refreshed the feed again. 'We should tell Mum.'

'For some reason, I thought you'd know what to do,' Kuo said, disappointed. 'But yeah, I guess Mum and Dad should know.'

Imogen disengaged from the interface and looked Kuo in the eye. 'Do you think anyone else has seen it?' Then, answering her own question, 'They must have. It would have been on radar long before it became visible.'

'Yeah,' Kuo agreed. 'No one seems alarmed by it. If the colony hasn't issued an alert, it mustn't be a threat or anything. Right?' he appended, hopefully.

Imogen wasn't so sure. There had been disconcerting things in their mother's files that she couldn't recall ever hearing any alerts issued for. Even more worryingly, she'd pulled a bunch of data from the station's most rigorously encrypted comms log documenting outgoing transmissions from Phix to an unidentified coordinate deep in the Kuiper Belt. This had required breaking through a series of firewalls she wasn't even sure her mother was supposed to have access to. But she didn't want to upset her younger brother until they knew exactly what the thing was, so she smiled coolly, and confirmed his reasoning. 'Yeah. I'm sure they're on it. Let's get some sleep and we can see what Mum and Dad know in the morning.'

IT WAS STILL THERE when they woke up. Imogen shuffled into the rec chamber and plonked herself down groggily at the long bench that protruded from one of its inclining walls. Kuo was already up. He glanced at her over the rim of the small ellipsoid cup he was drinking from and gave her a worried smile. It didn't look like he'd slept much. Clearly he'd been waiting for her to arrive before broaching the topic of the strange thing in the sky.

Their father was busying himself at the dispenser unit in the corner. 'You two look terrible!' he commented jovially. Imogen manufactured a sarcastic eye roll. Kuo didn't look up. 'Here, try this.' He clumsily attempted to slide two trays of a viscous,

tartrazine-yellow substance along the bench towards them. Imogen caught hers before it skidded over the edge and studied its contents. A curl of weak steam rose uncertainly from it.

'Looks gross.'

'It's the latest from R&D. Synth eggs.' Dad was obviously taking pleasure in her repulsion. 'The texture still needs some work,' he pronounced gleefully.

Imogen tried to coax some of the yellowish material onto her spoon, but it kept sliding off. 'Where's Mum?'

'She was called to the central meeting room. She'll be back later.'

The panels on Kuo's sleep suit shifted from a complex ensemble of green and orange hues to violet-blue. Imogen wasn't one for unresolved emotional tension, and she knew Kuo wasn't going to say anything outside of what he was already communicating to her through the geometrical colour code.

'Dad,' she proposed as seriously as she could, 'have you seen the sky? Is it about the thing in the sky?'

A barely perceptible flicker of doubt crossed his face but he caught it before it could fully manifest and redirected it into a grin. 'You mean the comet?'

'If that's what it is,' interjected Kuo.

Their father relaxed his grin a little, but kept it in place. 'That's what the committee thinks it is. I only know what your mother told me before she left this morning. But we should have more information soon.'

Kuo shot an imploring look at Imogen. As if on cue, the nuke media screen lit up to indicate activity at the module's main entrance and the adjoining door slid open to admit their mother and a colonist named Locke. The two women strode into the room, evidently in the midst of a heated discussion.

'It's not worth it, Lakyta,' Imogen's mother was saying. 'We know it will turn out just like last time. Someone needs to explain the complexities of the situation to everyone. It can't keep going on like this.'

Locke glanced warily at Imogen, Kuo, and their father seated at the bench, mentally taking stock of something. 'I'll put it to the others,' she stated, guardedly. 'In the meantime, we continue to observe. The protocol remains in place.'

Imogen's mother gave her a curt, hostile nod. 'You know what I think.'

'You're compromising the project,' Locke stated flatly. Then she fired an ersatz smile at her interlocutor's family and exited the module the way she had come in. 'What's going on?' their father asked.

'Oh, the usual committee ineptitude. I don't know why we persist in running things this way. No-one ever agrees and it takes forever to reach a decision. Meanwhile, this... thing is coming at us out of nowhere. Every second we hesitate equates to a reduction of the distance between it and us.' She was visibly irritated.

'Want me to talk to them?' he offered, knowing the response in advance.

'No,' she replied immediately, then, softening her tone a little, 'No. XOSURO love this stuff, you know how it is. We'll never be fully autonomous. Not as long as people like Locke and her faction remain on Phix.' She joined her family at the bench.

'So, what is It?' Kuo stammered, unable to keep his anxiety at bay.

'It,' replied his mother, 'is just a comet. But its trajectory is set — we expect it to collide with Phix some time after 15Eh30 tomorrow.'

Kuo's eyes widened. 'No.'

Imogen's mother paused for a long moment, inscrutably processing something of great seriousness. Her husband made a move that indicated he was about to offer her a tray of synth eggs, but she shut him down with an ominous look before he could complete the gesture. 'It's not that bad, Kuo,' she offered. 'It's happened before. A couple of times. You wouldn't remember.'

Kuo looked like he was going to cry. It was obvious to Imogen that her mother was deliberately holding



something back from all three of them.

She continued, 'The comet isn't expected to hit the settlement directly, and it's not particularly large. It might take out some of the mining infrastructure in the northern quadrant and flatten the comms unit on Phix's far side. It'll most likely affect our orbit, but that could be a good thing, a means of picking up new satellites. The problem is more to do with what it might be carrying with it.'

'What's that supposed to mean?' Imogen snapped. Her mother inhaled slowly and considered her daughter's determined expression. A smile almost surfaced on her lips but she suppressed it. They were alike in many ways, and she knew Imogen wasn't going to let her get away without an answer. At a deeper level, her daughter's petulance offered her an excuse. 'I mean some kind of life form. Not aliens. Well, technically, aliens. Something like a biological parasite. An ancient mass of ice like that, formed way out in the Oort Cloud, probably dating from the inauguration of our solar system — it's a black box, an unparseable X. There is nothing we can say about it that will give us even the slightest bit of traction on it. All we can do is wait for it to hit us, then deal with the aftermath as best we can.'

'Oh come on!' her husband said. 'The committee is being silly. We used to pick up bits and pieces of ice from the Oort Cloud all the time and they never contained anything more dangerous than pockets of frozen hydrogen sulphide.'

Kuo nodded his head in relieved agreement, comforted by his Dad's inane joke.

'If it's such a black box, how come you're so specific about its contents?' Imogen pressed. 'It could contain alien parasites, or whatever, but it could just as easily be packed full of synth egg paste. What you just said doesn't make sense.'

But her mother refused to elaborate, offering an even more cryptic statement in response. 'The committee thinks something is sending them to us. Like I said, this won't be the first time things will have happened this way.' She gave her husband a look that communicated something to the effect of, 'Shut up, I'll explain later'. Imogen's father seemed annoyed and puzzled. His wife had higher security clearance than him, but he would have remembered alien parasites, even if XOSURO had somehow attempted to keep it a secret from the settlement.

Imogen stabbed her spoon into the yellow goop on her tray and swirled it into an obscene looking spiral. She believed her mother, but something about her conviction regarding the status of the comet didn't quite add up. 'If we've been hit by an Oort object before, why doesn't anyone talk about it?'

'Maybe they don't... want to remember,' her mother replied. 'We're programmed to repress traumatic memories. That's just a biological fact.'

'But this stuff about parasites. What makes you — the committee — so sure that's even a possibility? It's like you're talking to us from the future or something.'

Imogen's mother sighed. Her decision to cross this threshold had already been made, but it was still difficult to actually cross it. She glanced cautiously over her shoulder at the nuke media system before disabling it from the interface on her personal comms unit. Then, as if having second thoughts, she got up from her seat, opened a panel in the wall, and disconnected the cable connecting the system to its power supply. Having satisfied her paranoia, she returned to the bench. 'Back in the early days of the settlement, before you or Kuo or any of the other children had been born, we were battered by several of these objects. They came one after the other. Testing us. Each time there was an impact it affected the mining tech, the food production centre, or the new radar installations we'd been building, but none of them hit the settlement directly. It was almost as if XOSURO had deliberately chosen Phix because it acted as some kind of attractor for these terrible missives from the Oort Cloud. They never

offered any help of course, but we had our ways of carrying on. The loss of infrastructure wasn't the worst of it though. The last few impacts affected us in...' she glanced at the media system again before continuing, '...different ways. Some of the colonists got sick. Luckily, our biotech unit was clever enough to devise a method of dealing with the issue. But we've been wary ever since. Waiting for the next impact, afraid of what it will bring.'

Imogen relented. The look of resignation on her mother's face at that moment was something she'd never seen before. Kuo let out a whimper, compensation for the effort he was otherwise making to keep his anxiety from exploding ungracefully and undermining the sense of composure everyone had been labouring so hard to maintain.

'I'm going to have a shower,' their mother announced. 'The committee has ordered another meeting later. There will be more to say then.' With that she rose authoritatively and left the rec chamber with Imogen's father trailing behind her. Kuo remained frozen at the bench, staring at the media system power cable that was still protruding from the wall.

'Hey Kuo,' Imogen turned brightly to her brother, 'I figured out the refinement specs for printing the Scatter Shell, wanna come print one?'

IT WASN'T UNTIL 13EH THE NEXT DAY that the committee finally issued the official alert. All settlers were to stay confined to their modules. No one was to move about the complex under any condition until further instructions were given. The R&D buildings had been evacuated; the nanomechs in the mining zones were off-duty. Exiting or entering the station buildings would not be tolerated on any account. The directive was non-negotiable.

Above them, the great zero of the incoming comet hung in the sky. It was at once the most terrifying and the most thrilling thing Imogen had ever seen. Looking up at it from below, she felt she finally understood the desire of her species to throw itself recklessly into the unknown extremities of deep space. The strange pull of that unfathomable abyss, full of such wild and inexplicable stuff. It spoke to her like nothing she'd dragged off the terrestrial downlink ever had. Kuo didn't share her exhilaration. He was full of fear. Even without the sequence of panicked tesseracts he was shooting at her via the coloured panels on his suit, it was plainly readable in the way he held his body: tensed and tucked tightly inwards — as if he were trying to occupy a space smaller than humanly possible for someone with such long limbs. Imogen put her arm around him and hugged him closely.

'It'll be cool, Kuo. Think of all the crazy stuff that goes on in the universe all the time without us even knowing about it. Stuff like this! And we never get to see it. This is like... a gift, or something.' Her attempt at reassuring him clearly wasn't working, so she tried a different tack. 'Remember what Mum said? She's been through it before, and she's all right. Look.' Their mother was hooked into the interface on the observation deck next to them. Eyes blank, inscrutable as ever. Somewhere in the mesh of neurons and wires connecting them to the interface a concentrated beam of attention was focused on the comet, carefully monitoring its advance. She had the committee channel open on her comms unit. Every now and then Locke's avatar would appear on its screen, transmitting information to her mother and several of the other colonists. The committee's central command core.

'I guess,' he conceded.

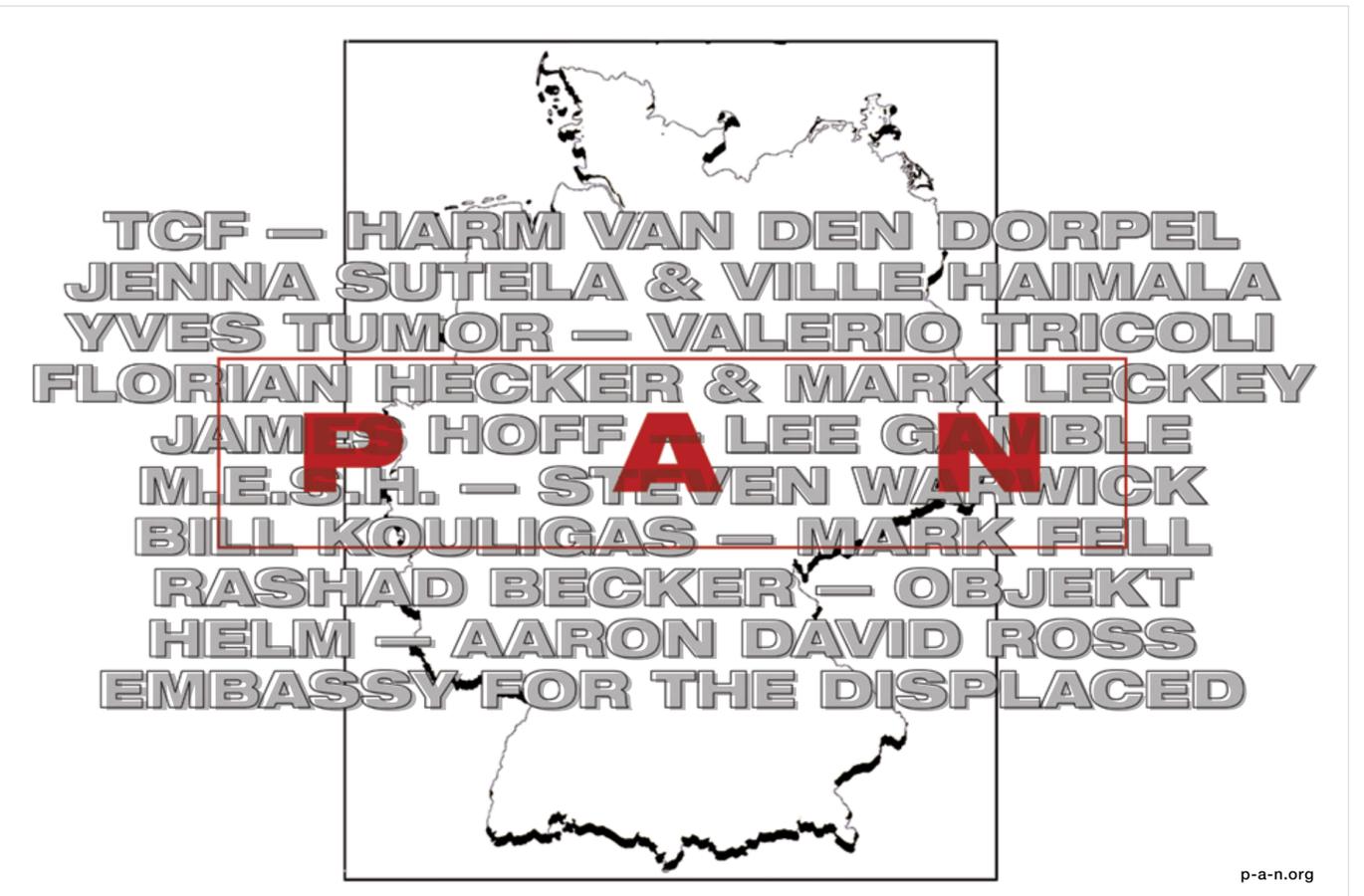
Kuo trusted Imogen, more than anyone else in YG9, but he couldn't help instinctively looking around for their father, even though he knew he was stationed below, keeping an eye on the relentless flow of updates the committee was issuing via the media screens. Kuo desperately wanted to join him, but he also didn't want

to disappoint his sister who was clearly committed to the more intense experience to be had on the observation deck. He couldn't understand what she meant about the comet being a gift, or why she seemed so elated. Eventually Imogen gave up on words and just let herself stand there next to Kuo, hoping her presence alone would be enough to comfort him.

Numbers ticked impassively across the observation deck's visual display, marking the narrowing temporal interval that divided them from the moment of impact. Outside, the landscape told a far more dramatic story in the media of matter and light — one that made the regimentation of terrestrial timekeeping practices seem absurd. Despite the fact that it was bearing down on them with incomprehensible speed, the comet seemed almost immobile. Frozen into place in an interminable moment of pre-catastrophic beauty. It fizzed with a febrile green incandescence so intense it eliminated all shadow from the landscape below, collapsing the varied topography of Phix into a single, surreal plane. Flat, yet infinite in its dimensionality. Imogen couldn't shake the impression that the comet wasn't approaching Phix. Rather, Phix was being drawn into the comet — as if the entire temporal and spatial environment was slowly imploding and being reprocessed into a language of appearance determined by nothing outside of the comet's own, wild logic. Waves of combusting ions simulated great, radiant curtains overhead, closing on one scene, opening onto a new one, ushering Imogen through successive levels of dissolution and reconstitution, each weirder than the one preceding it. The extremities of her perceptual apparatus began to bleed into the information it was receiving from outside in such a way that she started to lose any sense of the boundary between her body and the vibratory field immersing it. The whole spectacle struck directly at whatever constituted her sense of self, paring it down as it dragged her over each approaching threshold, the only thing holding her back from complete identification with imminent catastrophe. The plutoid's icy terrain began to pulse with a bizarre, shimmering throb corresponding to some alien beat beyond the edge of corporeal intelligibility. A conspiratorial vibratory sequence took possession of the module's outer structure, compressing and expanding it in accordance with the patterns of light. An uncanny rhythm took hold. She felt a compulsion to move. Her feet — were they hers? — began to shift on the temperfoam floor. Kuo took this as an opening and fled down the hatch to level one. For a moment, she wanted to join him, but she couldn't take her eyes off the comet. Its black core sucked her in. Things seemed to be writhing inside it. The module began to shake more and more violently. Just when she thought she had reached the final threshold, a pressure wave broke above the settlement and joined forces with a wall of energy exploding up to meet it from deep within the plutoid's interior. The opposing lines of force met and crossed in the sky, forming an X where the zero of the comet had been. As the floor tilted upwards, Imogen felt her small, incomprehensible body flatten and unroll into a single, fragile membrane, spanning the full width of the temperfoam surface. To her surprise she didn't scream or cry out — she laughed. As the vibrations subsided, the formless plane she had become folded infinitely back into itself, returning, via some quirk of geometrical law, to human form. The wave retreated. Its message delivered.

She heard her mother issuing a single, terse command to the men below. 'Check the main door!'

Imogen tore herself off the floor and managed some kind of parody of a sitting position. Although she felt no pain, an archive of objective physical trauma lingered in the bizarre indentation she left behind on the temperfoam. Her shattered perceptual apparatus struggled to gather the environment back into clumps of intelligible experience. A staggering change in illumination was the first thing she was capable of making sense of. The entire station's lights were



out. An after-image of the comet still danced about in her vision, overlaying everything with an ominous, hollowed-out cipher. Lit from below by the lonely glow of the interface screen, her mother’s features dispersed and coalesced amidst the blackness. She was speaking unintelligibly to the command core in low, clipped tones. Then she unhooked herself from the deck and twisted towards Imogen, grasping for her shoulder in the dark. ‘Are you okay?’

‘I think so. My eyes are messed up. And I can’t really feel my body, although it seems to work all right,’ Imogen said, clumsily testing out an arm.

‘Your vision will come back soon. Looks like we’ve lost the generators. The batteries will only hold out for so long and the heating system requires a lot of energy. I’m going to check on the boys. Back in a minute.’

Imogen tried to summon enough control over her limbs to stand up and steady herself against the spine of the flexichair. She felt as if her entire being had been dismantled and inexpertly reassembled. A dim glow rose from a giant pit to the settlement’s north. Arcs of crystallising steam bloomed about its edges. The hum of the module’s air regulation system dropped down to an unrecognisable tone. A disconcerting emptiness set in.

○ + 18909 TERRESTRIAL SECONDS. The timer on the observation deck continued to tick inexorably upwards from the moment of impact. When Imogen came to she was sitting limply in the flexichair, watching ghosts of coloured light emanating from the impact site roll across the sky. A quiet but insistent beeping from the console brought her back to her senses and with all the force of a terrible revelation she realised that her mother hadn’t yet returned. The module seemed deserted. ‘Kuo?’ she called out. ‘Mum?’ There was an anonymous scrabbling sound downstairs, followed by the clang of something hitting the ground. ‘Kuo? Is that you?’ she tried again.

An inhuman wheeze was the only response. She stood up too quickly and a ripple of nausea shuttled from her stomach to her head and back again. ‘Kuo. I’m coming!’ She grabbed the console for stability and the floor split in two, one plane rising, twisting and collapsing into the other. Out of the corner of her eye she caught something moving across the dark landscape outside. It looked like one of the station’s transport vehicles, returning to the complex from the direction of the R&D building in direct contravention of the committee’s orders. The dome of formless light over the crater where the comet had fallen continued to pulsate. Then she noticed another vehicle heading out from the station to meet the first one. They stopped and something from the first vehicle was transferred into the second vehicle, then they both reversed and turned back the way they had come. She rubbed her eyes frantically, trying to smooth the last bit of fuzziness out of her vision, and lurched towards the hatch connecting the observation deck to the lower level of the module. Below, everything was a mess. Any piece of furniture that was detachable had been removed and flung about with considerable strength. The compartments in the dining area gaped open and their minimal contents lay strewn across the floor amongst slowly deflating nutrient sacs from the dispenser unit. A light on the nuke media screen flashed urgently, indicating a problem with the entrance portal. There was an empty spacesuit on the floor. The way it was twisted 180 degrees at the hip gave the impression it had been shed in a hurry.

‘Kuo?’ Imogen intoned hesitantly, unsettled by the scene. She stepped lightly from the ladder to the metal floor and stood still amidst the debris. A pneumatic hiss from the module’s antechamber interrupted the silence. The main door was stuck on something. Imogen advanced as quietly as she could across the space and tapped the sensor for the partition separating the rec

chamber from the module’s entrance zone. As it slid open a vile smell assailed her. It was metallic and sweet, and, in some kind of foul cosmic irony, contained a note of hydrogen sulphide. The big aluminium entrance doors slid forlornly out of their housing in the corridor’s curved shell and tried to meet in the middle, but a lump on the floor was obstructing their path. They came into momentary contact with it before their sensors sent them into automatic retreat, then the cycle would begin again. Imogen crouched forward, trying to make out the obstacle in the pale emergency lighting that flickered erratically in the depths of the corridor beyond. It had a boot attached to it. She recognised the suit. It was her father, sprawled face down on the floor, one leg bent awkwardly underneath his groin. She caught the door before it hit him again and tried to rouse him.

‘Dad, get up.’ She placed her hand gently on his arm. ‘Dad.’ He didn’t respond. Imogen grabbed him by the back of the suit and attempted to pull him clear of the doors’ path. As she did, a trail of sticky fluid appeared in the place he had been resting. She was struck by the absurd idea that it was hydrated synth egg paste — a shield, perhaps, against the emerging realisation that the fluid on the floor was blood, and that her father wasn’t conscious. When she turned him over she felt she had seen the image, or something like it, before. He was missing the bottom half of his face and part of his neck, the tubes in the back of his throat were visible through a gaping hole where his jaw should have been. The edges of the wound were charred — the work of a kinetic plasma caster. Standard station weaponry. Every private module had one, locked away in a critical use kit, access to which could only be centrally activated by the committee, and even then there was a code. Imogen had lifted it from her mother’s files a few weeks ago when hacking the database and saved it along with her other high clearance access codes. Out of her family, only her mother was supposed to know what it was. She stood up abruptly, something in her mind kicking in and insulating her from the shock. Freed of their impediment, the automatic doors slid shut with a triumphant snap. Imogen’s heart rate exploded over a new threshold of bpm and she felt her senses sharpen as adrenaline flooded her bloodstream. What was out there in the corridor? Who had let it in?

‘Kuo?’ she called again, nervously, turning back to the nuke module. ‘You there?’

Something shifted in the darkness below the bench. ‘Is that you?’ The adrenaline rush had augmented her vision, making her sensitive to new subtleties in the construction of the blackness that filled the space. In the corner near the ridge dividing the nuke module from its antechamber she noticed the tiny pink light of the plasma caster — registering full charge — and beyond that, below the bench, she thought she could make out a faint violet glow, obscured by a tangle of cables and ventilation tubing that had been clawed out of one of the panels beside the dispenser unit. Driven by something far more primal than she was able to rationalise at that moment, Imogen edged towards the weapon and picked it up as silently as she could manage. A low, barely perceptible moan issued from the violet patch beneath the bench. ‘Kuo? I’m here, it’s ok,’ she said, entirely unsure of whether that was indeed the case. ‘Come out and we’ll… figure out what to do together.’

The moan persisted. The longer it went on the less human it sounded.

Imogen took a step closer, keeping her eyes fixed on the source of the violet light. As she transferred her weight to her front foot, the glow modulated to an intense magenta, introduced two low parabolas of indigo and ultramarine, then resolved into a violent isosceles of deep red. If it was Kuo, he was still transmitting messages to her. She read them through the geometrical code, but it didn’t seem right. Kuo wasn’t capable of the kind of atavistic belligerence the high

end of the spectrum was supposed to communicate. Imogen shifted her back foot forward to match the other one, causing the moan to escalate into a profoundly unnerving wail. It seemed to contain an element of Kuo’s voice — but it was as if something completely unused to human vocal anatomy was attempting to hijack his speech organs. Then it stopped. Imogen froze, her senses raw. The red light burst through the bench and exploded towards her in a hail of silica and carbon-fibre splinters. The wail re-established itself, fiercer than before. She wouldn’t have had time to dodge her attacker if the mesh of cables and ventilation tubing spilling out of the wall between them hadn’t gotten in its way. Imogen fell backwards onto a section of grating and instinctively shielded herself with the flank of the plasma caster. Over its upper edge she recognised the eyes of her younger brother, leering at her out of the darkness above, where the tangled cables had caught him mid-lunge. He still resembled Kuo, but his face was distorted by an unnaturally wide grimace. Every muscle beneath his skin was taut and inflamed and his lips were coated with a hideous foam. He snarled at her. Imogen hooked the fingers of her free hand into the grating and dragged her body out from underneath him, letting out a shaky breath. As she did so, the entrance portal hissed open and Imogen’s mother stalked into the module. Kuo let loose another wail, clawing about madly with tensed fingers, straining to get at his sister.

‘Mum, it’s… ’ Imogen had no idea what to say. ‘Dad’s… there… ’ she trailed off.

Her mother glanced rapidly around the room. She acknowledged the butchered corpse of her husband slumped over to one side before the automatic doors, the weapon in her daughter’s hand, and the howling, luminous form of her youngest child frantically working to disentangle himself from the mass of cables that confined him with all the calmness of someone taking a routine inventory. Her gaze lingered much longer over Imogen. ‘How are you feeling?’ she enquired suspiciously.

‘What?’ Imogen stammered. Her mother held her gaze, assessing her. ‘I don’t freaking know. How do *you* feel, Mum?’

Her mother relaxed slightly, reassured by her daughter’s familiar defiance. Kuo let out another sadistic wail and shifted the focus of his struggle from Imogen to the cables, attempting to yank them free of their housing in the wall.

‘You need to shoot him, Imogen.’ Her mother commanded. ‘It’s the only way we know how stop them.’

Imogen stared at her mother. ‘You’re insane!’

‘No, he’s infected,’ she explained. ‘This is their latest method of attack. The comets are loaded with a virus. It finds its way in every time.’

Kuo succeeded in detaching the main ventilation tube from its casing, completely freeing his right arm and shoulder. He lunged again but was forced back by the remaining cables.

‘What do you mean?’ Imogen whispered, keeping her eyes on Kuo.

‘Just shoot him.’

‘He’s my brother!’

‘We’ll print him again.’

Kuo raised his right arm and delivered a calculated blow to the panel, definitively uncoupling the knot of cables from the wall. Then he hurled himself, howling, onto Imogen. The same impulse that had driven her to pick up the plasma caster pulled the trigger for her. A flash of pink light consumed the chamber, forcing Imogen back further into the grate. She heard a wet slap as Kuo’s body hit the opposite wall. It folded in two and crashed to the floor. There was a brief second of silence, followed by the rising tone of the weapon replenishing its charge. The stench of metal, sulphur and burning flesh that had accompanied the discovery of her father’s corpse returned with a whole new level of intensity. She got to her feet and aimed the weapon

again. Kuo was flailing about mechanically with what remained of his limbs, as if whatever was controlling him hadn’t realised its vessel was no longer capable of operation. An uncanny image of Kuo’s drone buzzing feebly on the floor just the night before flashed through her mind, then she pulled the trigger again. The flailing ceased.

Imogen’s mother approached and examined her daughter’s face with dispassionate pragmatism. Imogen tried to resist, but gave in out of sheer exhaustion. ‘I’m sorry,’ she said, unsure of who she was directing the apology to.

Her mother, satisfied with her evaluation, replied, ‘I know how you feel. You don’t forget it. No matter what they say about repression. It’s always there, in the background.’ This seemed to be more of a personal reflection than a statement intended for Imogen, but then she added, ‘You did the right thing,’ and hugged her daughter. Imogen stayed silent.

‘Kuo was a print,’ her mother explained. ‘He was already a copy. The second one in two months.’

Imogen didn’t know how to respond. ‘He wasn’t real?’ she whispered, tears starting to form in the corners of her eyes. Things were getting incredibly strange incredibly quickly.

‘He was real,’ her mother replied, ‘just not original. Real the way your father was real. Did Kuo do that to him?’ She gestured towards the corpse by the door.

‘I don’t know, he was like that when I found him. I passed out on the observation deck after you left and everything was… it was like this when I came to.’

‘Listen to me very carefully,’ Imogen’s mother instructed, pulling out of their embrace and holding her daughter by the shoulders. ‘I didn’t tell you the full story yesterday. Not because I don’t trust you, it’s just committee protocol.’ These last two words were laced with palpable bitterness. ‘Today’s events have happened before. The comets I talked about — they’re much more frequent than I let on. In the early days they were just hunks of ice or rock, and the worst we had to deal with was damage to the settlement’s infrastructure. It was devastating, but YG9 is a resilient colony and we gradually incorporated the possibility of relentless bombardments from the Oort Cloud into the way the settlement functioned. Our mastery of the impact events underwrote two decades of relative equilibrium, during which XOSURO congratulated us endlessly for having ‘overcome one of the most pernicious contingencies of life in deep space’. Then, inexplicably, the bombardments ceased entirely. We regained our confidence and started to implement the second phase of the colonisation project. You and Kuo were born, along with the rest of generation number two. Several years passed and nothing happened. Then all of a sudden, they started to arrive again. The original sequence of nine impacts in quick succession followed by a gap of roughly ten years was officially upgraded from ‘pattern’ to ‘cycle’. Everything in that respect was identical, but the comets themselves were different. This time they were carrying a virus with them.’

‘That’s why you were so sure about the whole biological parasite thing?’ Imogen asked, trying desperately to assimilate this new level of information to the previous account.

‘Yes. And the change seemed calculated, as if we were being exposed to this nightmare on purpose. Within hours of impact, no matter what we did, at least one member of the colony had been infected. At least one. It’s always the same thing — some kind of anthropogenic parasite that takes possession of the central nervous system — seemingly adapted, or perhaps designed for specific interface with the human species. Those who are infected become extremely violent and often succeed in annihilating anyone they come into contact with. Worse, it spreads quite effectively once it’s inside, and this exponentially increases the extent of its destructive capabilities. No one who contracts the virus is ever spared by it. We still haven’t figured out how

it transmits itself, it doesn’t appear to follow normal biological rules and is impervious to all the measures of quarantine and inoculation we have been able to devise.

‘When the second cycle of impacts began the committee tasked R&D with building a catalogue of the entire colony’s genetic data to use with the newly developed biosynthetic printers. It was supposed to act as a combative measure against our destruction, but I worry the committee has a different agenda. The catalogue includes complete neural scans, intended to preserve the memories and complex self-models of each of the colonists at the time of their scans. That’s why prints have no memories of the comet. Or only distant ones if they are first generation settlers like your father. Since the first successful trial, the committee instituted a law that excludes anyone who has been reprinted from participating in the command core. They consider it a means of protecting against the loss of invaluable experiential data, but each time around, the number of those in power shrinks. Sometimes I wonder if they’ve got it backwards. Perhaps it travels through memory — through the knowledge of its existence — and it’s us, the command core who are inadvertently acting as its transmitters.’ She paused gnomically. Then, as if realising the dark irony attendant on her explanation of this to Imogen, cut the speculation off abruptly and concluded with a statement more befitting of the original question. ‘Everyone on Phix has been profiled, including Kuo.’

‘So that’s what you meant when you said we would “print him again”?’ You just reprint everybody after the epidemics? Imogen felt as if someone had shoved her in an airlock and opened the outer doors. Her environment had been replaced, molecule for molecule, by an alien atmosphere.

‘Yes,’ her mother said softly.

Imogen looked around in disbelief, searching for something in the chamber that would contradict her mother’s explanation, but the opposite occurred. It all started making more sense.

‘Now you have some idea of how hard it is seeing part, or all, of your family die in front of you each time around.’ Her mother’s voice wavered, a rare occurrence. ‘The last comet was only seven weeks ago,’ she added. ‘We still have at least another five to go.’

Imogen accepted the story without resistance. It seemed that she had finally exhausted the reservoir of her mother’s classified knowledge. Now she knew more than Kuo, perhaps even more than their father had. ‘How come Dad didn’t know about the virus? He must have been alive, an original I mean, when the second cycle of impacts began. And old enough to remember them properly.’

Her mother looked pained. ‘The infections were minimal at first. We covered them up. And by the time it finally got to your father, we had a scan of him ready to go. So no matter what other versions of him have seen since, he always defaults back to a state of ignorance when we print him.’

‘Mum,’ Imogen said suddenly, remembering the outgoing transmissions from Phix she had discovered while messing around in the station’s encrypted comms logs, ‘I cracked your access codes and got into the data-base. I was only looking for material specs — for the Scatter Shell — but I found something else.’

Her mother couldn’t help letting out a little laugh. On some strange level if felt that, even after all she had just revealed, Imogen had somehow outdone her. It made her proud. ‘You cracked my access codes?’ she exclaimed, doing her best to sound annoyed.

‘Yeah. Sorry. But then I hacked into the station’s comms logs, some other places too — trying to get around the committee’s lockdown on the Vesta uplink — and I found evidence of long-range transmissions going out from Phix to somewhere completely weird, way out in the Kuiper Belt, maybe even deeper in the Oort Cloud. Basically the opposite direction to Vesta and nowhere near any of the other colonies. The

coordinates were very strange. Who are we talking to out there? What if there’s a level of deception that even you don’t know about?’

Her mother lost the look of faux-vexation she had cultivated in response to Imogen’s confession and grew suddenly stern. The anger that was unnecessary before now rose up in earnest. ‘Locke,’ she said quietly.

Imogen remained silent, aware of the significance of the information she had just shared without fully understanding what it meant.

‘Can you still get into the logs, Imogen?’ her mother demanded, gesturing to the media system behind them. A tiny amber light flashed in one corner of the display, indicating that the system was on standby. ‘Show me what you saw.’

Their brief moment of commiseration was over. Imogen placed the plasma caster gently on the grating and stepped over to the console. She fished a headset out of the debris and started to plug it in.

Just then the main doors split open and a small party of colonists burst in. One of them pointed a device that Imogen had never seen before at her mother and shot her in the chest. It was Locke. Before she could readjust her aim in the dark Imogen had dropped the headset and dashed down one of the nuke module’s connecting corridors, heading for her cell.

‘That’s one less dissenting voice in the committee,’ she heard Locke say.

‘Looks like her family’s got the bug anyway,’ another colonist added, pointing out the bodies of Kuo and Imogen’s father with a wrist-mounted light. ‘Probably only a matter of time before it got to her too. It’s a damn wonder how she makes it through every time.’

‘Made it through,’ Locke corrected. ‘Take care of the girl. And make it look authentic.’

Imogen punched the sensor on her door and heard the seal activate behind her as she struggled to extract the Scatter Shell from a compartment in the ceiling. It fell lightly into her hands and she slid it over her head, tugging the hood down to completely cover her face. It flashed electric blue, then cycled through a weird sequence of colours before the refractive function started to kick in. It wasn’t supposed to do that. The fabric scintillated convulsively as the camouflage script fought to override the glitch. She could hear Locke’s companion clanking along the grating in the corridor. For one awful second it occurred to her that she might have made a mistake in the prototype’s design. Sometimes the stims made her overlook things. That, or the files had been corrupted when she merged them with the stolen specs.

A shrill arpeggio of beeps sounded outside the door. Locke’s companion was deactivating the seal with a committee key. Her mother used to do that sometimes. The glitch relented and she disappeared into the dark grey polyamide of the cell’s internal casing, just in time. Locke’s companion swung lightly through the opening, moving carefully in case Imogen was infected like her brother. As he passed her, she kept completely still, then slipped out behind him while he attempted to surprise her in the sleeping compartment. She crept into the rec chamber and flattened herself against the wall opposite her brother’s fragmented remains. Locke had picked up the plasma caster and was using it to fire another beam into her mother’s body. Imogen kept her head down so the opening of the hood would not reveal her presence. With her crime satisfactorily overwritten by the charge expelled from the more familiar weapon, Locke turned and motioned to the rest of her party to leave. The remaining member returned to the rec chamber with a perplexed expression on his face, side-stepped the debris at the bottom of the hatch leading to level two and began to climb to the observation deck.

‘Leave her,’ commanded Locke. ‘It won’t matter in a few minutes.’

Her companion looked relieved. As they exited the module, Locke tapped the panel on the wall and the

aluminium entrance doors shut behind them. Imogen heard the trill of the committee key again. They were sealing her in.

Now totally alone, standing in the midst of her family's remains, she attempted to take stock of everything that had happened since the night before. She checked her mother's body just in case, a gesture she knew was futile, but one she felt driven to carry out. Then she sat down on the floor and tried not to cry. The realisation that had been pursuing her all along suddenly hit home. She was a print herself. And if the last impact took place only several weeks ago, she was a fresh one. How long had she been 16 for? How many times had she completed those mind-numbing eduEx corporate training modules? Her mother's aloofness finally made sense. If she had been the only original among them, how many times had she seen Imogen and Kuo and her husband killed by the parasite — or each other? How many times had she been forced to eliminate them by her own hand? Imogen pushed back the long sleeves of the Scatter Shell and peered at her own hands in the darkness. Her mother had passed something on to her. Now she was the one who knew. When they reprinted the casualties, when they fixed everything and made it all go back to normal, she would be the only one in her family with a memory of the terrible event. She stared into the blackness before her. There was no way out of this. As long as the comets kept coming the threat of being trapped in an endless, repetitive loop hung over her. It was this desperation that finally brought the tears to the surface. She let them flow in an unchecked stream. They created a strange effect on the surface of the Scatter Shell, marring its camouflage with pockets of incompletely rendered fractals of the space in which she sat. Defeated.

No longer having anything to compete with, the forgotten sound of the air regulation system reassured its presence in her consciousness. Its dependable hum had been with her since the day of her birth, give or take a few excursions outside the complex, when it had been replaced by the equally monotonous but reassuring sound of an in-suit supply system. At that moment it seemed to offer something more than just pressurised air. A lesson in stoicism, perhaps. Something always persists, she thought to herself. Then the hum stopped. A high-pitched hiss replaced it momentarily, then that stopped too. A dark silence descended upon the chamber. Imogen stood up. Locke had shut off the oxygen. She tried the entrance door, but the committee override remained in place. No, she thought. They wouldn't do this. She looked around helplessly, trying to determine whether or not there was an alternative route out of the nuke module, but the station's design prevented it. All the modules were completely separate structures, connected to each other only by the arterial corridor system that wove its way around the entire complex. The media system lit up and Locke's avatar appeared on the display. A trail of bright green characters erupted out of the space below it and pulsed towards the left-hand side of the screen, rapidly assembling a sentence.

> It doesn't matter, Imogen. You won't remember any of this.

'Turn the oxygen back on,' Imogen commanded, enunciating each word with the kind of calm precision that can only be derived from pure contempt. She knew Locke was monitoring the space and she assumed she had an audio feed. 'I'll remember. I'll find a way to remember.'

The cursor blinked indifferently, then the flow of text resumed:

> No you won't. Why bother censoring the feeds when we can just reset your memory? But I won't leave you without a comforting thought.

The screen refreshed, then a large chunk of text

appeared, scattering green-black shadows across the chamber:

> 'If a human being did not have an eternal consciousness, if underlying everything there were only a wild, fermenting power that writhing in dark passions produced everything, be it significant or insignificant, if a vast, never appeased emptiness is beneath everything, what would life be then but despair?'

'What the hell is that? Some kind of XOSURO corporate credo? Who do you think you are?' Locke was obviously getting off on the power afforded by her position. But it would be temporary. Just like it was for everybody else. Imogen would make sure of it. She hooked herself into the interface in one deft movement and input the following, deliberately archaic dismissal of Locke's idea of a 'comforting thought':

> Fuck. You.

The last thing she needed right now was some committee sermon. She shut down the comms channel, activated her personal interface and sent a program out to hunt for anything that was accessing the nuke module's information systems from outside. Now she had to deal with the whole running-out-of-air thing. First she tried to hack around the committee override of the main doors, but it was too tough. Its encryption was much harder to crack than the other stuff had been. There was something alien in the code. Next she tried to take control of the ventilation systems, but the shell for the committee database had been altered. Someone was deliberately trying to keep her out. Ok, she thought. I have to send a message. She pulled up her own files and started to cycle through them. Unfinished maths homework. Bits of code she'd been working on. Drone stuff. The committee would have to wipe all this before they reprinted her. But how would they know what to reset it to? There must be a back-up dating from the time of her scan somewhere. A back-up, and some kind of manifest detailing the contents of the nuke module and all of the information she'd had access to at the time. She switched to her mother's interface, entered the codes she had stolen, and started sifting through the committee's files trying to calculate the date the scans must have taken place. Hopefully the committee wasn't fastidious enough to shut off her mother's access just yet. They had a parasite to deal with.

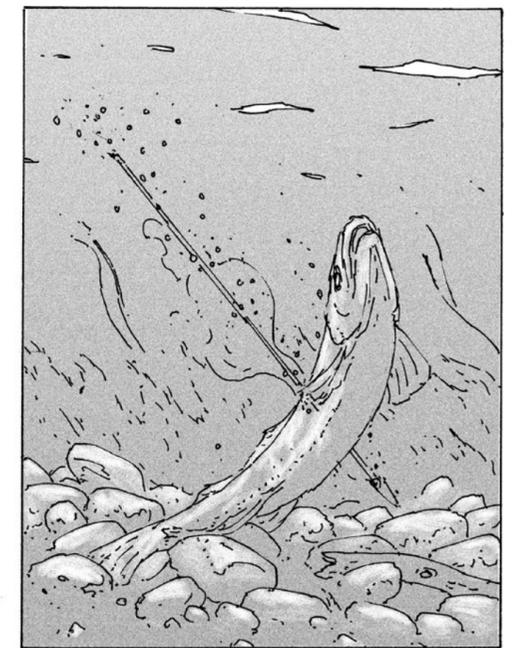
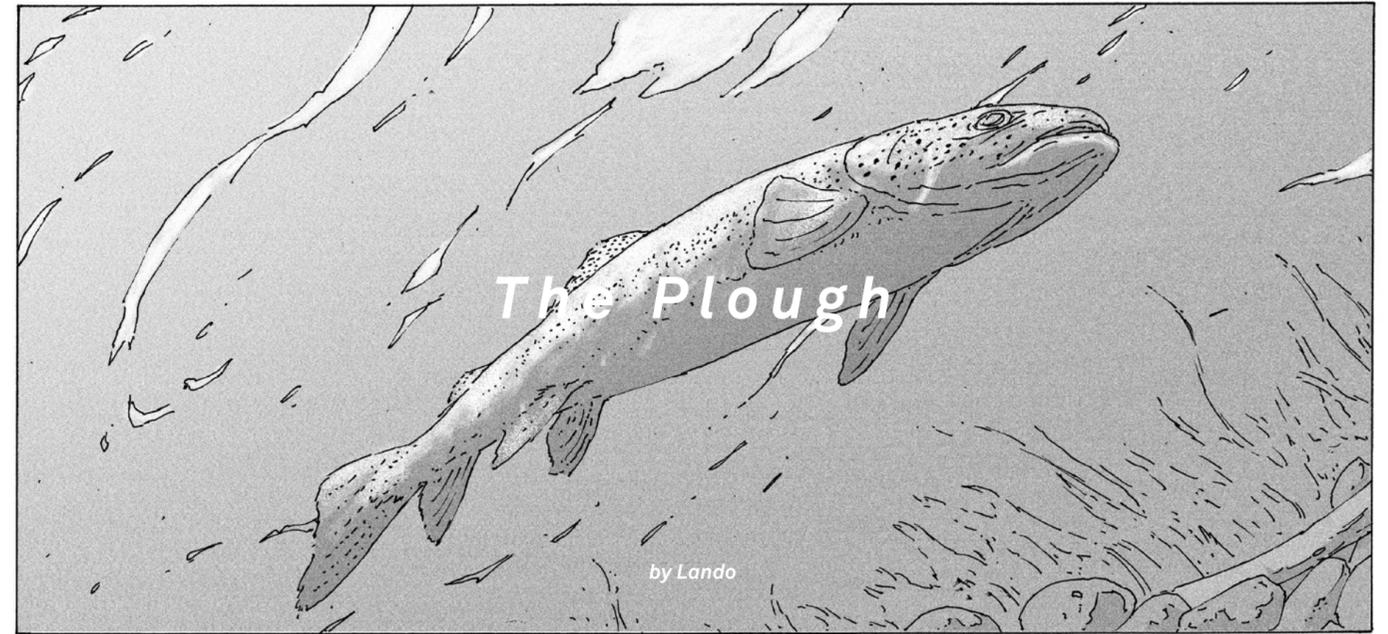
As she searched the database she noticed there were replications of certain dates. The years 2209, 2210, 2211 and 2221 occurred multiple times over, and more specifically, there was a sizeable chunk of communication missing from the first iterations of 2210 and 2221. That must be it. 2210 for first generation scans; 2221 for second generation scans. Only it didn't make sense that the 'current' date always seemed to be corroborated by the terrestrial Universal Calendar. Was Earth in on this? How deep did the operation go? She had always thought it was weird that they kept to the old calendar, despite the fact that the way Earthers experienced solar cycles had nothing to do with the way things happened out here on Phix. But her suspicions of galactic conspiracy were allayed just as quickly as they had emerged. A file from 2209 containing instructions for implementing 'downlink adjustments' explained that YG9 had been replaying old hap-feeds to sync Phix with the Universal Calendar ever since the reprints were first implemented. So that was why it was forbidden to talk to YG11, or anybody else for that matter. Phix was hopelessly caught in a time lag. Not that time made sense anymore anyway. She scoured the comms for data about the uplink, but as far as she could tell, information coming out of Phix wasn't 'adjusted'. That explained why Earthers always thought her designs were 'cute' and never 'sleep'. In any other situation, the total collapse of her cultural ambitions would have crushed her, but there were far more important issues

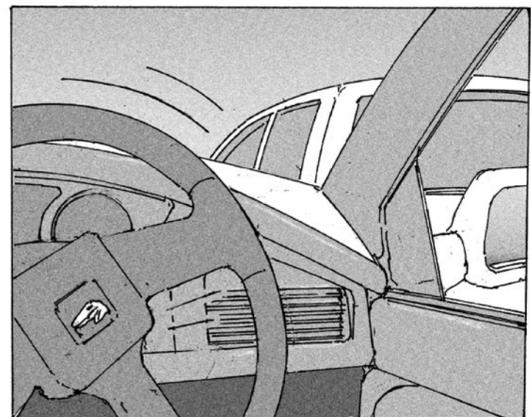
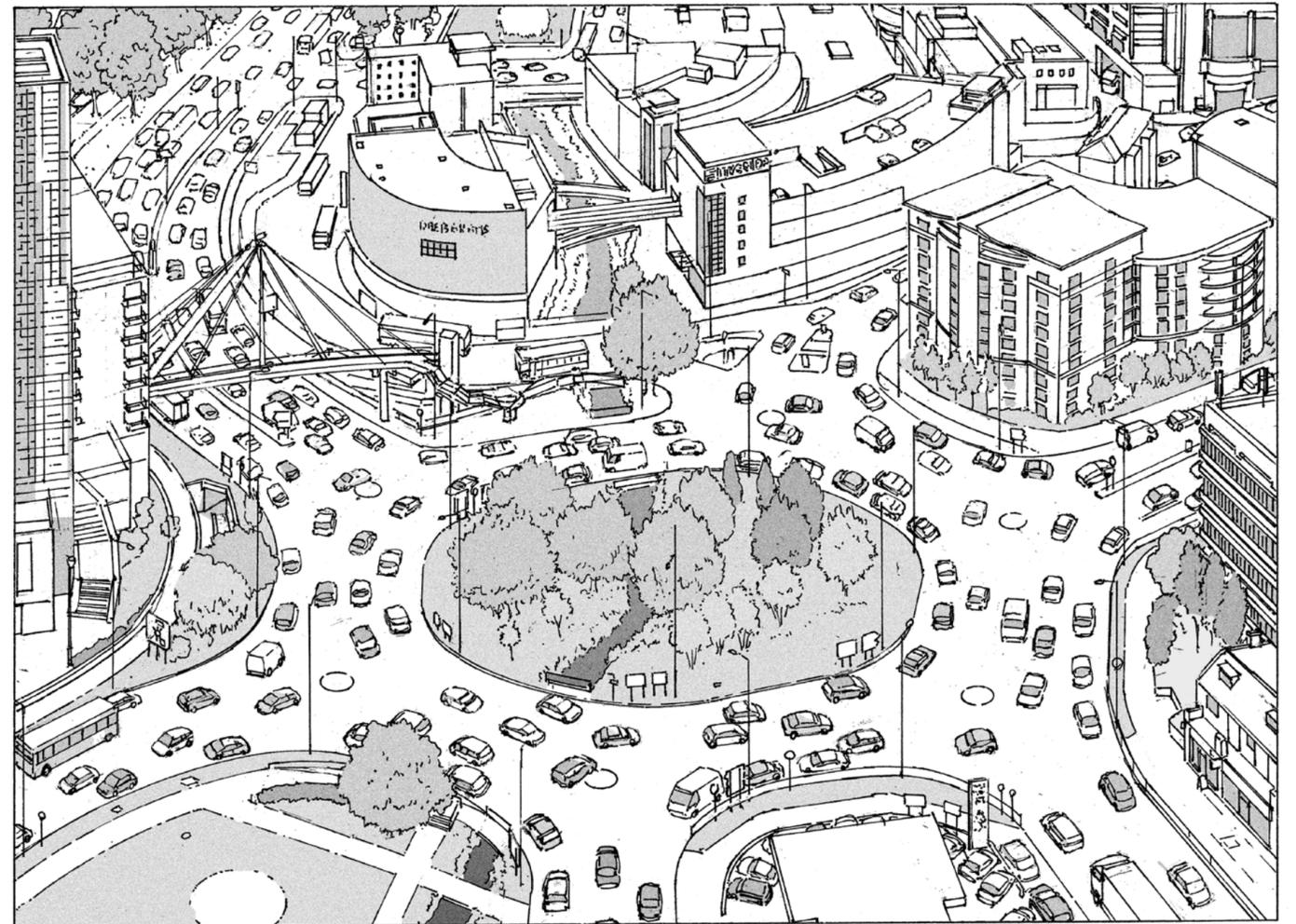
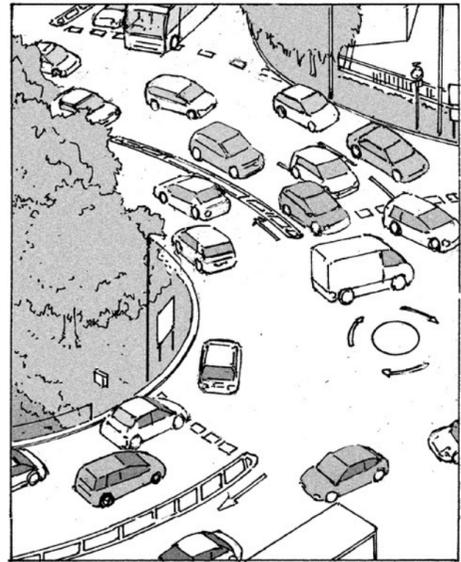
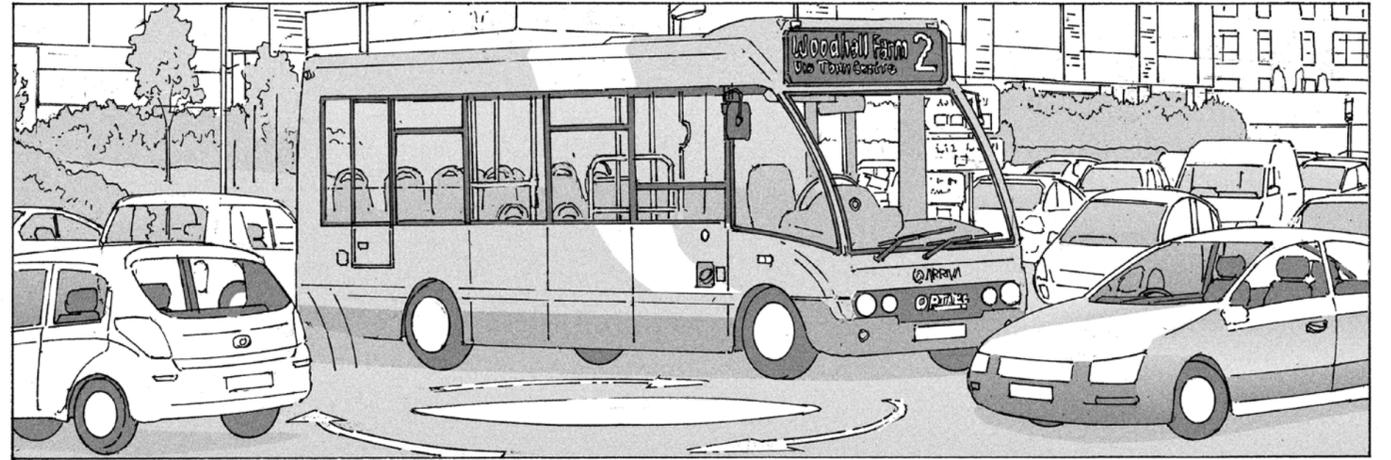
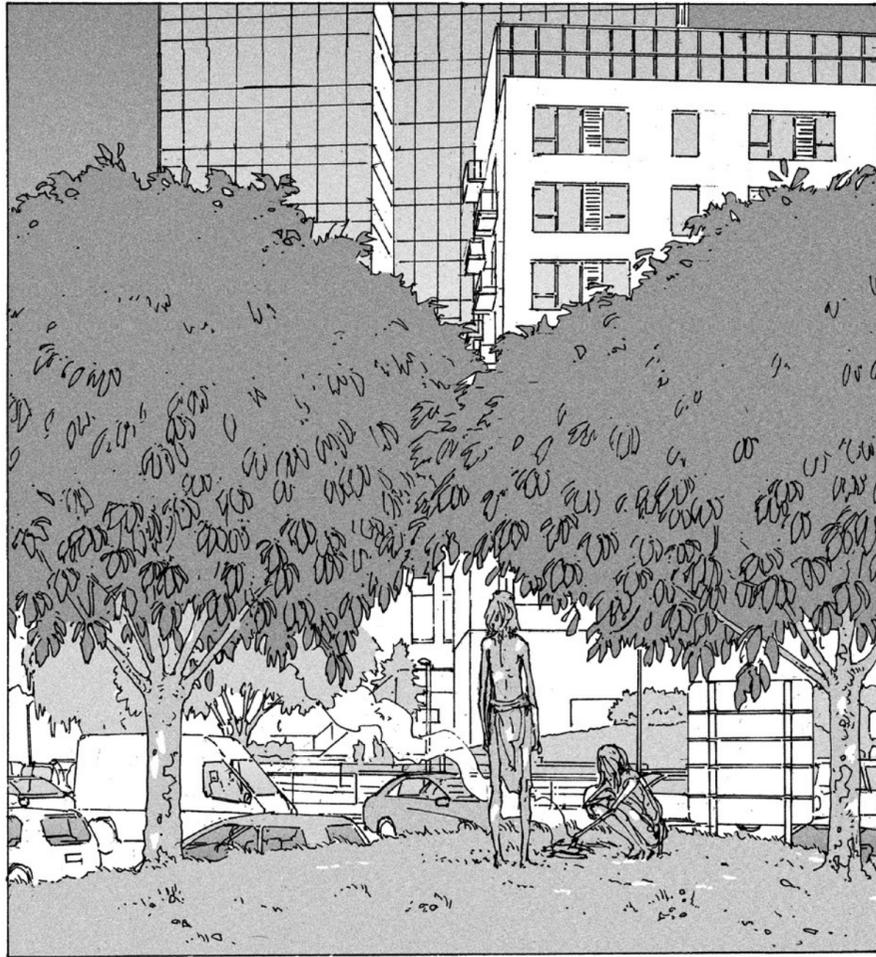
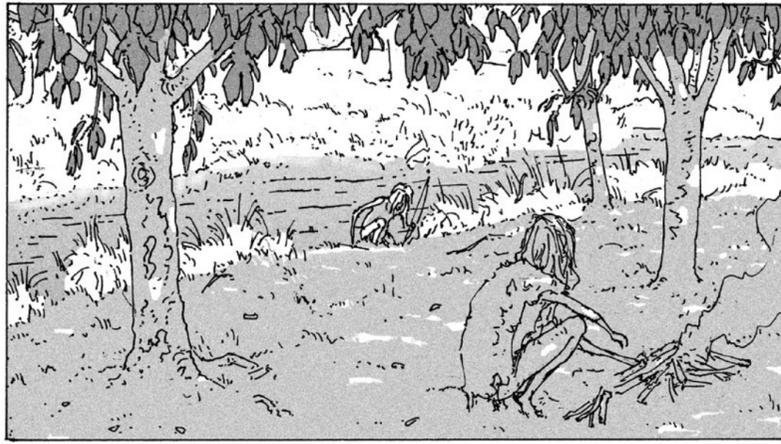
to attend to right now. The rapidly thinning air in the nuke module being top of the list.

So, a message. The uplink was definitely monitored, which meant it had to be a camouflaged message if she tried to get it out that way. And not just a sneaky bit of code, either. They'd catch that. It had to be something more abstract. Something only she could read. Imogen continued to manoeuvre through her mother's database until she found what she had been looking for in a masked file hidden deep within the protocols for the biosynthetic printers: the catalogue of settler scans. It was encrypted to the hilt, but it was old encryption, none of this alien stuff. She cracked it easily and found the directory with her name on it. Everything was there. If she'd had the time she could have looked right into her genetic makeup, but she went straight for the personal interface back-up. The same half-finished homework she'd just flipped through reappeared on the display. Euclid's Fifth Postulate. Eternally destined to remain incomplete. There was a joke somewhere in that. She continued to sift through the files until she came across the library she and Kuo used for their designs and brought up the Scatter Shell. Its camouflage function suddenly took on new significance.

The files for the original design were basic enough, but she now loaded them with the script they had used for the colour panels on Kuo's sleep suit, decrypted the copy of the material specs she'd pilfered from her mother's database, and started to write a short program that would transmit a message using the geometrical code. As a language it wasn't very precise, but she could communicate enough information to get her future self, or past self, or whatever it was, thinking along the right lines. The transmission would trigger automatically the first time a freshly printed Scatter Shell was activated. She put all the files together and added them to the committee's back-up. Then, for insurance, and perhaps even as an act of defiance against the qualifier 'cute', she ran a cloaking program and connected to the terrestrial uplink. The link went through without detection. The radar must still be intact. She watched as the updated model loaded with a message only she and Kuo would be able to decipher began to make its way to Vesta and then to Earth. It would be there within a fortnight. Less for Vesta. An occulted line of transmission to her future self. And a secret tribute to Kuo. She disabled the visual input for a second and glanced over her shoulder at his remains against, and on, the wall. A pretty awful *memento mori*. She wasn't going to fare any better this time either. The thing that kept her focused was the thought that this was how her mother must have felt, over and over again. Surrounded by the dead. Waiting for the next loop to begin.

Imogen unhooked herself from the media system, wound the headset tightly in its cables, and climbed sleepily up the ladder to the observation deck for one last look at the distant star that, in one way or another, was responsible for this whole mess. Somewhere between her and it was the message. A geometrical study in despair. As she sat at the console staring into the sky she wondered what was really out there in the Oort. It couldn't be any worse than all the things that had emerged from the sun: bacteria, fish, mammals, consciousness. She kind of preferred its dark inversion of the centre. As her vision started to give out on her she struggled to keep hold of one particular thought that was nagging ceaselessly at the edges of her comprehension. Something to do with dying. How, despite having to go through all the anxiety of dying, she wouldn't truly die. That was the real horror. Everybody died, but they only had to do it once. Calling it death on Phix was a misnomer. Locke, or the committee, or XOSURO — whoever or whatever it was — would not even allow her the consolation of a singular, human death. This was her fate. The eternal repetition of a cycle. But she could leverage it. Exploit the fact of her return. To be printed and reprinted. It wasn't even close to a proper ending.







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