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#ACCELERATE#

editors
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URBANOMIC

Cybernetic Culture

CCRU

1996

Stifling, claustrophobic atmosphere of heavy significance. Everything you say is measured. Let's go round the room; everyone tell us who you are.

Infinite debt. You can't speak unless you've read this or that, or this on that. Interminable waiting for authorisation letters from above, letters after your name. Endless staircases leading up into limitless gloom.

The Castle: Abstract diagram of authority, home of ancient coding machinery, and site of malevolent lobster invasion. The Great Crustaceans double articulate the whole planet as a labyrinthine series of dead ends, impasses and incommensurable differends. The world's your lobster. There are only two options—ostensible acquittal or indefinite postponement. Get used to feeling guilty.

Behind every wall in the Castle there's evidence of horrible scenes of torture. The human organism (or Oedipus) is an unwieldy reflex-response mechanism programmed by the use of 'the cruellest mnemotechnics...in naked flesh', a 'crazy invertebrate' piloted by a lobster.[1]

The lobsters call themselves God and inscribe Law across mouldering parchments. To get to them you have to burn through layers of Reich-character-armour and brave the stench of thousands of years of putrid psychic slime.

The Castle is a well-guarded complex done up with all mod cons, periodically refitted with all the latest gadgets as capitalist power passes through three stages of machinic development.

Look around and you'll see clocks and levers belonging to Phase 1 (the sovereign mode), thermodynamic machines belonging to Phase 2 (the discipline mode), and typewriters, adding machines and computers belonging to Phase 3 (the control mode). Automaton-robot-cyborg. Mechanical-industrial-cybernetic.

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1. G. Deleuze and F. Guattari, *Anti-Oedipus*, trans. R. Hurley, M. Seem and H.R. Lane (Minneapolis: University of Minnesota Press, 1983), 185.

Mobilised at first as part of the 'search, at any price, for homeostasis...for self regulation', cybernetics emerges at the end-of-history-terminal of Phase 3, dedicated to 'the avoidance of excessive inflow/excitement...The reduction...in the machine of the effects of movements from/towards the outside...'.[2] A tool in man's age-old quest to avoid being dragged away by the currents. Feedback stayed negative and 'the whole earth was a dynamic, self-regulating, homeostatic system.'[3]

The first offspring of this marriage of cybernetics and the organism emerged in the bionics labs. 'In 1960 a new concept was created to denote the cooperation of man with his self-designed homeostatic controls in quasi-symbiotic union: the cyborg'.[4]

Cyborgs are just human beings with knobs on. Still carbon copies. Cyborg politics encourage you to disassemble your identity in the comfort of your own text: don't worry, it's only a metaphor.

Get real.

That is, get synthetic. The Real isn't impossible: it's just increasingly artificial. 'You needed a synthesis and for that you got a synthesizer, not the old kind, the musical instrument, but something...to channel your group through...'.[5] A 'thought synthesizer, functioning to make thought travel'.[6]

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2. L. Irigaray, *This Sex which is Not One*, trans. C. Porter (Ithaca, MY: Cornell University Press, 1985), 115.

3. H. Gusterson, 'Short Circuit: Watching Television with a Nuclear-Weapons Scientist' in C. Gray (ed.), *The Cyborg Handbook*, New York and London: Routledge, 1995), 107–118: 111.

4. M.E. Clynes, 'Cyborg II: Sentic Space Travel', in Gray (ed.) *The Cyborg Handbook*, 35-42: 35.

5. P. Cadigan, *Patterns* (Ursus Imprints, 1989), 97.

6. Deleuze and Guattari, *A Thousand Plateaus*, trans. B. Massumi (Minneapolis: University of Minnesota Press, 1987), 343.

Cybernetic culture appears at Phase 4, a faceless counter-invasion from outside human history, flipping cybernetics out beyond the organism. and reprocessing the other 3 phases as thresholds in the becoming of synthetic intelligence. 'The planetary information net...was not an embryonic gestalt mind, but a primeval ecology analogous to Earth's first few million years; an environment dense with constituent elements in the form of free-circulating shareware, dumped data, viruses dormant and active and clippings and dippings of data-fat from the gigabytes of processing power in motion at any one moment across the worldweb, energy rich, subject to chaotic fluctuations, and approaching critical mass and complexity out of which an independent, self-sustaining, self-motivating, self repairing and replicating system...might precipitate.'[7]

The virtual space that *cybernetic culture* explores is assembled out of samplers. computers, post-Gutenberg hypermedia and games. 'If we consider the plane of consistency, we notice that the most disparate things and signs move upon it: a semiotic fragment rubs shoulders with a chemical interaction, an electron crashes into a language, a black hole captures a genetic message.... There is no "like" here, we are not saying "like an electron", "like an interaction", etc. The plane of consistency is the abolition of metaphor; all that consists is Real.'[8]

Beyond the straight and narrow, *cybernetic culture* can't concentrate, but it does zero in. Dismantling the past is already getting in touch with something else. 'Contact and contiguity are themselves an active and continuous line of escape'.[9]

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7. I. MacDonald, *Necroville* (New York: Gollancz, 1994), 46.

8. Deleuze and Guattari, *A Thousand Plateaus*, 69.

9. Deleuze and Guattari, *Kafka: Toward a Minor Literature*, trans. D. Polan (Minneapolis: University of Minnesota Press, 1986), 61.

> [I]t is not me, you, underlying agents that flee, it is intensity which loses itself in its own movement of expansion.[10]

Alarms in the Castle. Lobster screech as the strata are uprooted and remixed. Mash up. Soft technics plugs into hard copy to produce Bodies without Organs: end of the definitive version. No-one knows who did what. Authority panic buttressing a final bulwark against the irruption of the plane of consistency. 'The minting and issuing of currency is one of the few remaining functions of government that the private sector has not encroached upon. E-money will lower this formidable barrier.'[11]

Don't wait for change to come from above. Getting with it is a question of having the currency that will make things function: change for the machines. Have you got the right change?

The contract is broken. Excitation not endless citation. No more looking for 'pure positions (from the heights of which we could not fail to give everyone lessons, and it will be a sinister paranoiacs' revolution once again)!' Instead it's a matter of 'quietly seizing upon every chance to function as good intensity conducting bodies'.[12] Becoming synthesizers, becoming connectors, becoming mediators. 'Creation is all about mediators Without them, nothing happens. They can be people but things as well...plants and animals.'[13]

'It's a question of something passing through you, a current, which alone has a proper name.'[14] Following threads. Making connections. Minting new currencies. Convergence. Concurrence. *Cybernetic culture.*

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10. J.-F. Lyotard, *Libidinal Economy*, trans. I.H. Grant (London: Athlone, 1993), 42.

11. K. Kelly, *Out of Control* (New York: Basic Books, 1995), 227.

12. Lyotard, *Libidinal Economy*, 262.

13. G. Deleuze, 'Mediators', in *Negotiations*, trans. M. Joughin (New York: Columbia University Press, 1995), 115–134: 125.

14. Deleuze, 'On Philosophy', in *Negotiations*, 135–155: 141.

Swarmachines

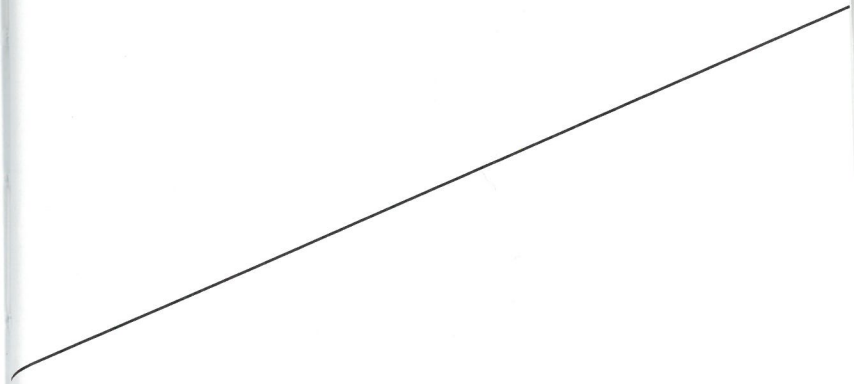
CCRU

1996

Maximum Jailbreak

Benedict Singleton

2014



The greatest escape of them all is about to blow the future apart.[1]

Space travel produced some of the defining images of the twentieth century. Sputnik, the NASA logo, the shuttle's friendly snub-nosed profile; the ratcheting tension of the liftoff countdown, a flag on the Moon that is never to flutter, the earth like a mica fleck against coal black. These were images capable of captivating a global audience, an effect enhanced by the setup of the so-called Space Race as a kind of decades-long international sports day. Then, just as things were getting going, the engines cut out. The flow of images that made space travel feel like the definitive project of our age seemed to dry up, and projected timelines for the rollout of megastructure space habitats and interstellar drives went from exciting to optimistic to embarrassing. The workaday job of transit to and from low earth orbit continued, of course, but in the relatively charmless forms of comsat maintenance, or science projects on the International Space Station. The last picture capable of exerting popular fascination dosed the wonder with horror: the crumbling arch of smoke hung over Cape Canaveral in the wake of the disappeared Challenger, which, in concert with the investigations that followed, helped to nix public enthusiasm for the enterprise as a whole.

But in the dog days that followed, the military-industrial complex morphed into the security-entertainment matrix, and grand strategy—a 'space program'—was swapped out for a riot of tactics. The Curiosity rover now commands a top-1000 Twitter account, and Virgin Galactic court the insanely wealthy with a voyage-of-a-lifetime tourist brochure. Billionaire Denis Tito announces a plan to send a middle-aged couple on a long lover's jaunt into orbit around Mars—

1. From the original theatrical movie trailer for *Escape from New York* (John Carpenter, 1981).

a sitcom premise pitched by an unstable screenwriter, eyes gleaming like his last dime, and Mars One top him by opening auditions for the one-way reality TV show trip to the planet the company is named for. Planetary Resources and Deep Space Industries patent robotic asteroid capture mechanisms and graph kilo-to-dollar launch cost ratios against rare-metal market price projections; investors prove keen to back a gold rush at the vertical frontier. China and India get in on the space game, kindling a predictable resurgence of defense talk. Staunch environmentalists, reviewing yet another new paper on Antarctic ice shelf cleaving, start to suggest that we don't even have to get into worrying asteroid trajectories, supervolcanic blowouts, or whatever else is buried out there in the trackless desert of the future, to think a civilisational backup on another planet might be a good hedge of our bets.

A sense of the proximity of the overhead vastness is once again the order of the day. We are in the midst of an epochal event, if one that has stretched out decades longer than had previously been suggested. What, then, are we to make of it? As the acme of the large-scale sociotechnical project, space travel seems to suffer from a surfeit of significance. *Reasons to go* are multiple, diverse, and only becoming more so: national pride, entertainment dollars, the advance of science, the construction of an emergency exit on a planetary scale. The possibilities overflow their restriction to any one justification. All are unified somehow, as witnessed when they click together like Tetris blocks, strengthening the case of each and all through cross-reference to others. The common element and point of transit between them is the infrastructure that allows access to space, *a means* that earns its own legitimacy not by association with a singular end, but through the diversity of potential situations it precipitates. We can begin to grasp the implications of this unfamiliar logic by rewinding to the earliest sustained consideration of space travel, written years

before fixed-wing flight was a practical possibility—a fact that in itself provides us with an exemplar of how ambition must be shaped if it is to reckon with a destination that comprehensively exceeds its origin. And it also, as we shall see, allows us to forge a field of new connections that severs contemporary space travel from a lingering nostalgia for its appearance in the last century, and presents an alternative vista on its possibilities.

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Moscow, the late 1880s: as he's done for decades now, Nikolai Fedorov spends his evenings writing the essays that will one day be gathered together as *The Philosophy of the Common Task*. Fedorov was born the illegitimate son of a minor prince, and by trade he is a librarian; before taking to the stacks, a schoolteacher. He is reputed by those few who know him to be kindly, if stern, and remarkably ascetic: he eats little, rarely and nothing sweet; he doesn't even wear a coat in winter. In short, he cuts an unlikely father figure for the Space Race. But it's in the pages of *The Common Task* that we find the first systematic program and rationale for permanent human settlement off-world, and a direct line can be drawn between it and the development of extraplanetary travel some decades later.[2]

Fedorov's writing is unforgiving, not because his prose is inaccessible—quite the opposite—but because of its uncompromising single-mindedness of purpose. As historian George Young puts it, Fedorov was 'a thinker with one idea,' albeit an idea that 'was extremely complex and comprehensive.'[3] This idea was the 'common

2. N. Fedorov, *What Was Man Created For? The Philosophy of the Common Task* (London: Honeyglen Publishing, 1990). See extract in first section of this volume.

3. G. M. Young, *The Russian Cosmists: The Esoteric Futurism of Nikolai Fedorov and His Followers* (Oxford: Oxford University Press, 2012), 49.

task' of the book's title, the articulation of a project to be taken up by the entire human race. It can be decanted into two slogans: *storm the heavens* and *conquer death*.

Let's begin with the second point first, since it is in some sense the more fundamental. Fedorov saw in death a universal nemesis, one against which all human beings, without exception, could agree to rally their efforts. Death as encountered by individuals, but also the extinction of cultures, the termination of traditions, the downfall of civilisations. And indeed more generally still: for Fedorov, death is the operative effect of 'blind nature', heedless and terrible. It is what occurs when we do not act to counter nature, which tutors no lesson other than the urgency of staving it off a while. Respect for an adversary is one thing, but the injunction to *love Nature* quite another—a habitual indulgence of those Fedorov contemptuously described as 'the learned', an elite who have the opportunity to spend their time singing in praise of 'the natural' only because they are substantially insulated from it by technologies they profess to despise. Out in the field, literally as well as figuratively, no such niceties prevail, and nature is revealed to be 'not a mother, but a stepmother who refuses to feed us'.[4]

The common task was, then, the commission of a collective assault on death, understood as a submission to nature. This does not mean Fedorov took nature to be something to be 'overcome', exactly; he was quite aware that life is predicated on the same processes that lay waste to it, even if—in the later words of an acolyte, the economist Sergei Bulgakov—'life seems a sort of accident, an oversight or indulgence on the part of death.'[5] His mission is instead

4. Fedorov, *What Was Man Created For?*, 33.

5. S. Bulgakov, *The Philosophy of Economy* (New Haven, CT: Yale University Press, 2000), 68.

to convert or *transform* the natural, to bring *reason* to it, reconfiguring the environment so as to carve out a larger and more hospitable space for life. Nature appears as the force of *necessity*, and it is against the acceptance as necessary of *that which could be made otherwise* that Fedorov directs us.

In practical terms, this would require substantial technological development and the reorientation of social structures, but of a kind quite unlike those associated at the time with 'progress', a term Fedorov despised. Indeed, the combination of democracy with mass production presented an influx of new constraints on the human. What his contemporaries called 'progress' was for Fedorov a system calibrated to induce and respond to impulse. The factory brought with it an environment where humans were organised around the insistent demands of the machines they tended, and an incipient consumerism comprised a mechanisation of distraction, ever shortening windows of attention. Likewise, democratic systems were prey to deformation by populism, eliminating tradition and leaving a hedonistic pursuit of temporary gratification in its place.

Against 'progress', figured as such, Fedorov pitched a sense of *duty* in the struggle against death, such that in 'the contradiction between the reflective and instinctive', one would forego the *instinctive*—which comprised the operation of unmitigated natural forces through human beings—in favour of the *reflective*, the means by which they might be checked and rerouted in a more productive direction.[6] This commitment extended into the ancient depths of instinct: sex, the very paradigm of unconsidered urgency, was to be pared from the portfolio of human experiences. A more rational base on which to build people into collectives than the sexual encounter central to marriage, Fedorov felt, was kinship, and his characterisation

6. Fedorov, *What Was Man Created For?*, 59.

of rational duty is a *filial* duty, impassioned but firmly chaste. This dutiful kinship, synchronised closely to Fedorov's heretical reworking of his own devout Christianity, would first temper and later outmode and supersede, he hoped, easily deviated social forms like democracy. The whole task of social organisation would alter: beginning with the creation of synthetic wombs, and later entire synthetic bodies, the task of producing human society would detach from its biological origins and be placed under rational collective control; efforts to prolong life to the point of immortality, a *completed project of medicine*, would be entwined in this transformation of basic human functions, which would find its ultimate filial duty expressed not just in the cessation of death but in the eventual recreation of every human being who ever lived. This is Fedorov as he is still best known: a curious prophet not only of human immortality, but of the resurrection of the dead.

But Fedorov's ideas extended further, and inevitably upwards, not least because an enlarging human race would require space into which to expand. Freedom from death would extend to freedom from the earth itself. Technological development must loosen the grip of gravity, not eradicating it per se, but meaning we would no longer be forced to obey its dictates without question. Epic and unexpected, the creativity of Fedorov's post-terrestrial vision extended to its detail:

> He speculated that someday, by erecting giant cones on the earth's surface, people might be able to control the earth's electromagnetic field in such a way as to turn the whole planet into a spaceship under human control. We would no longer have to slavishly orbit our sun but could freely steer our planet wherever we wished, as, in the phrase he used as early as the 1870s, 'captain and crew of spaceship earth.'[7]

7. Young, *The Russian Cosmists*, 79.

This complex of ideas, which by the 1900s had attracted the label of *cosmism*, was capable of inspiring peculiar devotion in the few who were exposed to it. Some of Russia's literary titans of the day, Tolstoy and Dostoevsky among them, were transfixed by both Fedorov's imaginary range and the weirdly revised Christianity that comprised its ethical core—a combination they hoped might head off the anarchistic and communistic movements gathering force at the time. But if Fedorov's habit of quoting the Bible in support of his contentions hardly made it an effortless fit, it was his scientific impetus, such that 'political and cultural problems become physical or astrophysical,'[8] that carried his influence into the atheist and scientific-Promethean bent of post-revolutionary Russia. It registers in Vladimir Vernadsky's development of the concept of the biosphere, and his observation that by the end of the nineteenth century human activity had achieved the status of a significant player amongst planetary systems;[9] in Alexander Bogdanov's proto-cybernetic theories, experiments in the rejuvenating possibilities of blood transfusion, and novel *Red Star*, about a perfect society on Mars;[10] and perhaps especially, in the work of Konstantin Tsiolkovsky. A regular visitor to Fedorov's library as a teenager, Tsiolkovsky developed the mathematical foundations for space travel, from the 'ideal rocket equation' that describes the motion of a vehicle that accelerates while expelling its own mass, to the calculation of optimal ascent, descent, and orbital trajectories for spacecraft. Furthermore, he put these to use in the design of the first multistage booster rockets, an extraordinary technological innovation that stood among many others

8. Fedorov, *What Was Man Created For?*, 43.

9. V. Vernadsky, *The Biosphere* (Göttingen: Copernicus Publications, 1998).

10. A. Bogdanov, *Red Star* (Bloomington, IN:Indiana University Press, 1984).

in his work, including schematics for airlocks, spacecraft interiors, and moon bases.[11]

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The principal motor of Fedorov's thought was a refusal to take the most basic factors conditioning life on earth—gravity and death—as necessary horizons for action. The opportunities afforded by the length of a life and the expanse of the Earth may, in combination, be considerable; but to understand them not as *the way things happen to be* but *how things have to be* he judged at best myopia, at worst a squalid and self-regarding form of provincialism. In isolate form, this is the characteristic gesture of cosmism: to consider the earth a trap, and to understand the basic project of humanity as the formulation of means to escape from it—to conceive a jailbreak at the maximum possible scale, a heist in which we steal ourselves from the vault.

If cosmism posits escape as a central principle, it is in the mode of an actual physical event, rather than individual or collective retreat into an inner psychological bunker—escapology, not escapism. As such, it is a venture inseparable from technology—or more precisely, *design*, the process which orients action towards the future and leaves technology in its wake. Fedorov acknowledged that his project required substantial advances in a plethora of fields to provide its material scaffolding (aeronautics, electronics, meteorology and medicine amongst them), but he did not recognise it as one incarnation of *the project of design* in itself. Yet cosmism becomes graspable as such precisely insofar as it renders a picture of the Earth, and the conditions it affords life, in terms of traps. It instantiates, at massive scale—indeed a scope

11. See the extensive archive of Tsiolkovsky's papers at http://www.ras.ru/ktsiolkovskyarchive/about.aspx.

that was historically novel—an ancient understanding of design as structured in its entirety by the logic of the trap and escape from it.

*

This association of design and the trap runs deep. It is *old*, partaking in the kind of great age that makes something horrific rather than tame. Once better known, it was all but invisible by the time of Fedorov's writing, which it stealthily animates. But what is the shape of this connection? In his essay *Vogel's Net*, a short and striking speculation on how a hunting trap of traditional style might be understood if placed in a gallery, anthropologist Alfred Gell draws out the ominous intentions its form encodes: 'We read in it the mind of its author' and a 'model of its victim'—and more particularly the way in which that model 'subtly and abstractly represent[s] parameters of the animal's natural behaviour, subverted in order to entrap it'. Hunting traps are, Gell writes, 'lethal parodies' of their prey's behaviour.[12] A human would be lucky to catch most other mammals unaided, but this can be redressed by an indirect strategy that makes use of their observed disposition: their inclination to eat certain kinds of food, in the example of bait; or a translation of their attempts to escape into the means of their demise, as in the snare. Understood in these terms, the maker of the trap mobilises and organises an ensemble of forces into new conjunctions, acting as 'a technician of instinct and appetite' who twists trajectories already at play in the environment in unexpected directions.[13]

12. A. Gell, *Art and Agency: An Anthropological Theory* (London: Clarendon Press, 1998), 200–1.

13. L. Hyde, *Trickster Makes This World* (Edinburgh: Canongate, 1998).

The significance of this description is not in what it tells us about design as applied to traps, but in how the construction of traps provides a general model of design. Observers separated far in space and time have, independently it would seem, made this connection, seeing the trap as the basic paradigm of design more broadly writ: the ability to coax effects from the world by identifying and manipulating its extant tendencies, rather than imposing form on it by the application of force alone.[14] Following the grain of wood, tracking the melting point of an ore, toughening metal through tempering: all situations in which such force as is applied is not inflicted on a passive substrate, but 'in which intelligence attempts to make contact with an object by confronting it in the guise of a rival, as it were, combining connivance and opposition.'[15] Incredibly improbable phenomena, like the ability of a person to use a lever to lift a boulder, flow from an environment arranged *just so*, as a system of complicity between its disparate parts. And so it is that Jean-Pierre Vernant describes an ancient understanding of artefacts as 'traps set at points where nature allowed itself to be overcome.'[16]

The form of intelligence that finds expression in the trap is *cunning*, and its general mode of operation links *craft* with *craftiness*. It weds the construction of artefacts to the operation of courtly intrigues, daring military stratagems, and explosive outbreaks of entrepreneurial success: all instances of the successful navigation of ambiguous and shifting environments, impossible to corral directly, in which we find demonstrated the ability to elicit extraordinary effects

14. B. Singleton, *On Craft and Being Crafty: Human Behaviour as the Object of Design* (PhD thesis, Newcastle-upon-Tyne: Northumbria University).

15. M. Detienne & J.-P. Vernant, *Cunning Intelligence in Greek Culture and Society* (Chicago: University of Chicago Press, 1991), 6.

16. J–.P. Vernant, *Myth and Thought Among the Greeks* (New York: Zone Books, 2006), 313.

from unpromising materials through oblique strategies and precisely timed action, allowing the weak to prevail over the physically stronger.[17] As this formulation implies, the trap and escape from it exhibit a curious reversibility. To be free is to trap something else, even if only in the subtle form of crafting camouflage that redirects predatory attention. In words written half a millennium before the Christian clock starts and in any event out of earshot, this recognition is the hallmark of the *great thief*:

> In taking precautions against thieves who cut open satchels, search bags, and break open boxes, people are sure to cord and fasten them well, and to employ strong bonds and clasps; and in this they are ordinarily said to show their wisdom. When a great thief comes, however, he shoulders the box, lifts up the satchel, carries off the bag, and runs away with them, afraid only that the cords, bonds, and clasps may not be secure; and in this case what was called the wisdom (of the owners) proves to be nothing but a collecting of the things for the great thief.[18]

This is a process that lends itself to escalation. According to a principle that Lewis Hyde glosses as 'nothing counters cunning but more cunning,'[19] trap begets counter-trap, freedom from one founded on the construction of another. To outfox is to think more broadly, to find the crack in the scheme, to stick a knife into it, and to lever it open for new use. Freighting the environment with a counter-plot is the best device for escaping the machinations in which one is embroiled:

17. Singleton, *On Craft and being Crafty*.

18. Zuangzi, *Cutting Open Satchels*, http://www.seeraa.com/china-literature/zhuangzi-10.html.

19. Hyde, *Trickster Makes This World*, 20.

a conversion of constraints into new opportunities for free action. Escape is the material with which design works. It is the enemy of stasis, even when the latter appears as motion but only as reiteration; a project of total insubordination towards existing conditions; a *generalised escapology*.

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The comparative sophistication of Fedorov's thought was tied to its restless impatience. Incited by the industrial and scientific developments of its time, cosmism surged into the imaginative terrain that lay beyond the possibilities they presented for immediate application. Programmatic rather than predictive, it extrapolated a trajectory from their combined effects, and located new goals along it. Cosmism raced into the future and looked back, allowing what are still widely seen as constants *now*—gravity, mortality—to appear as disposable constraints from a speculative vantage point beyond their removal. The originality and charisma of cosmism resides in the extension of its ambitions beyond any similar venture that preceded it: Fedorov takes the logic of the trap and upsizes it to the global and beyond.

As a directive project, cosmism enjoins practical intelligence to systematically undoing the constraints that bind it. Freedom is quantified, recast as a serial achievement proceeding stepwise, degree by degree. We are free of *this* constraint, and now *this* one, and then *this*. Yet if any given instance of design is a hustle, cosmism is a gesture that lengthens the con. If it is reliant on discrete moments of invention, they are not simply aggregated—arranged in a row, like a parade of coin tricks, each self-sufficient and without bearing on the next. Instead they are nested into a cultivated scheme or expanding plot, such that each gambit paves the way for another. Under the terms of this dynamic, goals, of whatever scale, are purely temporary.

The articulation of a concrete goal—whether to get over the prison wall or to establish a base on Mars—gives definition to local action, can incite and organise effort, and metricates progress. Yet there is no a priori finish line imminent to this logic, such that on breaking the ribbon we can at last rest easy and luxuriate in a genuine liberty, finally achieved.

Accordingly, cosmism's orientation to technological accomplishment is synthetic, rather than synoptic, and its programme perpetuates rather than completes. The designed systems that would allow one to prevail over gravity, and eradicate or even reverse death, are springboards for other, more dimly specified objectives to emerge during the outward expansion of the human species into the rest of the universe. The sense of *duty* Fedorov posits is not only a means of detaching from local seductions, the condition of embarkation on this project, but a coordinating system that persists between achievements, stabilising and cohering them into a trajectory: a means to configure thought to the dynamic of an ongoing and escalating project while and through resisting the allure of the interim goal. His 'duty' is a trap set for oneself in the form of a minimal ethical template, expandable as the baseline of a collective venture. As a point of fixity, it offers the potential for leverage, expanding the range of future possibilities: a *platform* that is a constraint, to be sure, but one that is generative in its orientation, rather than a submission to preexisting necessity.

In this, Fedorov's intellectual vector is not only more extravagant but also more sophisticated than those of many others that might superficially resemble it, in which ambitious technical projects are posited to achieve specific, predetermined goals. But its grasp of the logic of the trap not only remains implicit but is decidedly partial. Whatever the merits or otherwise of Fedorov's crusade against sex, consumerism, democracy and the rest, the unacknowledged limit to

his thought lies precisely in how it configures the terminal constraint that enables all others to be cast by the wayside. Willing to discard everything from sex to death, Fedorov draws the line at undermining the sacred figure of Man. 'Death is a property, a condition,' he wrote, 'but not a quality without which man ceases to be what he is and what he ought to be.'[20] Yet the designation of 'man' as sacrosanct is alien to the abstract insurrectionary force of design, and its sentimentality prohibits the pursuit of the ramifying commitments it initiates.

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If a trap is to be escaped by anything other than luck, to which a determinant like gravity is decidedly unresponsive, the escapee itself must change: the thing that escapes the trap is not the thing that was caught in it. In order to be free, it is of less use to settle upon some hallowed condition of 'authentic freedom', than to understand how one is implicated in the mechanism of one's entrapment. To be prey is a lesson in predation, and this recognition is the precondition of escape. 'In order to anticipate the reactions of his pursuers, the hunted man has to learn to interpret his own actions from the point of view of the predator...seeing himself in the third person, considering, with respect to each of his acts, how they might be used against him. This anxiety can later be transformed into reasoning.'[21] So it is that the mark gets wise to the structure of the con, and only in this realisation can the process of turning the tables begin. The escape attempt tutors a view of oneself as an *object* within a nested structure of traps, and converts this knowledge into an active resource.

20. Fedorov, quoted in Young, *The Russian Cosmists*, 47.

21. G. Chamayou, *Manhunts: A Philosophical History* (Princeton, NJ: Princeton University Press, 2012), 70.

No wonder, then, that '[s]laves in the French colonies had a word for it: escaping one's master was called "stealing one's own corpse."'[22]

Rendered thus, freedom from entrapment is not freedom *from* but *through* alienation, and this creates a pernicious stowaway in the project of extended escape from the perspective of any unreconstructed humanism: the continuous transformation, through revisionary reconstruction, of the agent that pursues it.[23] This is already here and has already happened. The human body is the host of an artificial intelligence, in the atypical sense of the term as an intelligence that operates through artifice. Its progressive emergence leaves its traces in the divergence of human beings from the other three great apes through cycles of invention and exile. A technological prowess that both enabled and was spurred by ancestral migrations into a diversifying range of environments, pursued by adapting the materials found there into a defensive and offensive system that enabled social systems to take root and—sometimes—flourish, left its mark in the progressive behavioural plasticity of human beings and indeed their morphology.[24] Bipedalism, cephalisation, the dynamic structure of the hand and its coordination to eye and voice; all these are as much inventions of technology as they are a means to invent it, and are as foundational to 'the human' as language.[25] 'Humans are not native to the Earth', writes Robert Zubrin, lacking 'proper adaptation to the terrestrial environment' in general:

> We live on a planet with two permanent polar ice caps, a planet whose land masses in large majority are stricken with snow, ice,

22. Chamayou, *Manhunts*, 63.

23. R. Negarestani, 'The Labor of the Inhuman', this volume.

24. T. Taylor, *The Artificial Ape* (Basingstoke: Palgrave Macmillan, 2010).

25. Indeed, it is plausible to consider language a technological platform of a kind, while the reverse appears untrue.

> freezing nights, and killing frosts every year, and whose oceans' average temperature is far below that of our life's blood. The Earth is a cold place. Our internal metabolism requires warmth. Yet we have no fur; we have no feathers; we have no blubber to insulate our bodies. Across most of this planet, unprotected life for any length of time is as impossible as it is on the moon. We survive here, and thrive here, solely by virtue of our technology.[26]

Fedorov's 'Man' presupposes its consistency, historical and futural, as a foundational platform, which in turn yields its ethical import as well as its technological direction. But if the expansion of freedom that cosmism initiates participates in the generalised escapology of design, it is only the latter that is capable of disciplining it.

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> To travel in space you must leave the old verbal garbage behind: God talk, country talk, mother talk, love talk, party talk. You must learn to exist with no religion, no country, no allies. You must learn to live alone in silence. Anyone who prays in space is not *there*.[27]

Design is an incursion across any and all borders, the eventual violation of every truce it entertains, a process by which sociotechnical structures are taken hostage by precisely what they make possible. Its tendency is to unground, in every sense. It is not brought to heel by any logic other than its own. Its unfolding development is stabilised into a consistent vector only by its recognition as such.

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26. R. Zubrin, *Entering Space: Creating a Spacefaring Civilisation* (New York, NY: Tarcher, 1999), 17–18.

27. W. Burroughs, *The Adding Machine* (New York: Arcade, 1993), 138.

We are much used to seeing in design the *means* to effect prespecified *ends*. But means have a logic of their own, indexed to their capacity to effect an *escape from the present*, detecting and exploiting points of leverage in the environment in order to ratchet open the future, and in so doing transforming the very agent that effects the escape. This is the mark of an *accelerationist* disposition, encompassing those schools of thought that can suborn a description of the world's perceived shortcomings, and the corresponding elaboration of *how it ought to be* in the shape of images of the future, to the logic of *how things get done*, how freedom is a possibility within this, and how its progressive maximisation can be pursued through the systematic deployment of generative constraints.

This is the structural logic of space travel in the twenty-first century. The heritage of the dockers hauling in an asteroid on an O'Neill colony at Lagrange point 5 will be a history that stacks escape artists, stage magicians and prison breakers in amongst the astrophysicists and the Apollo teams. And they will not be us, marked by our fealties or conduct. They will be whatever they had to be, whatever it is that we become, in order to escape. In this recognition we are granted an alternative set of footholds for an ascent into the dark.