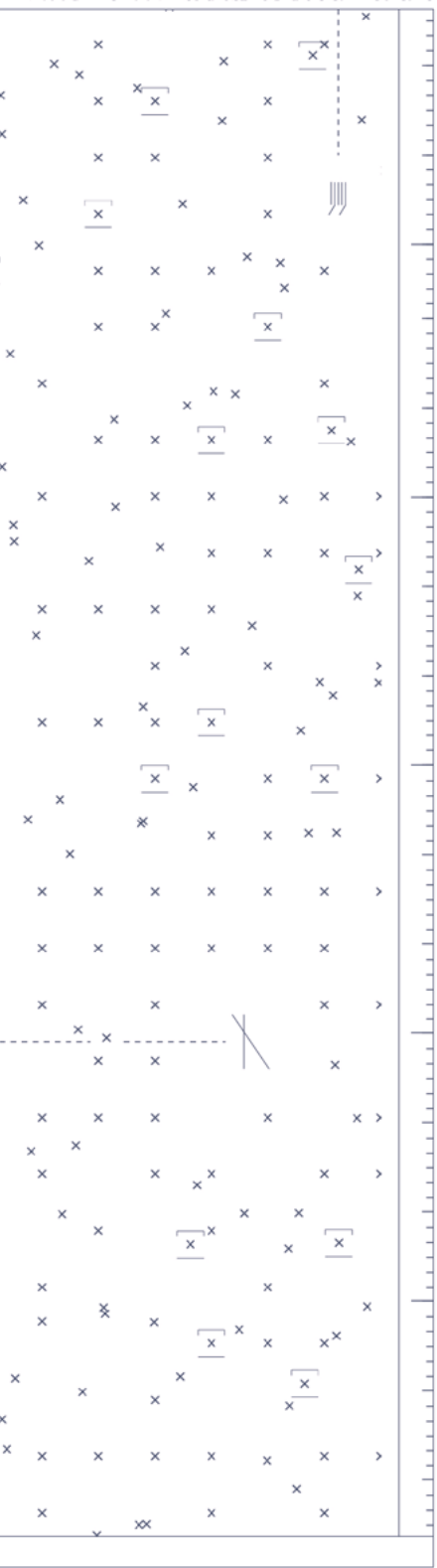
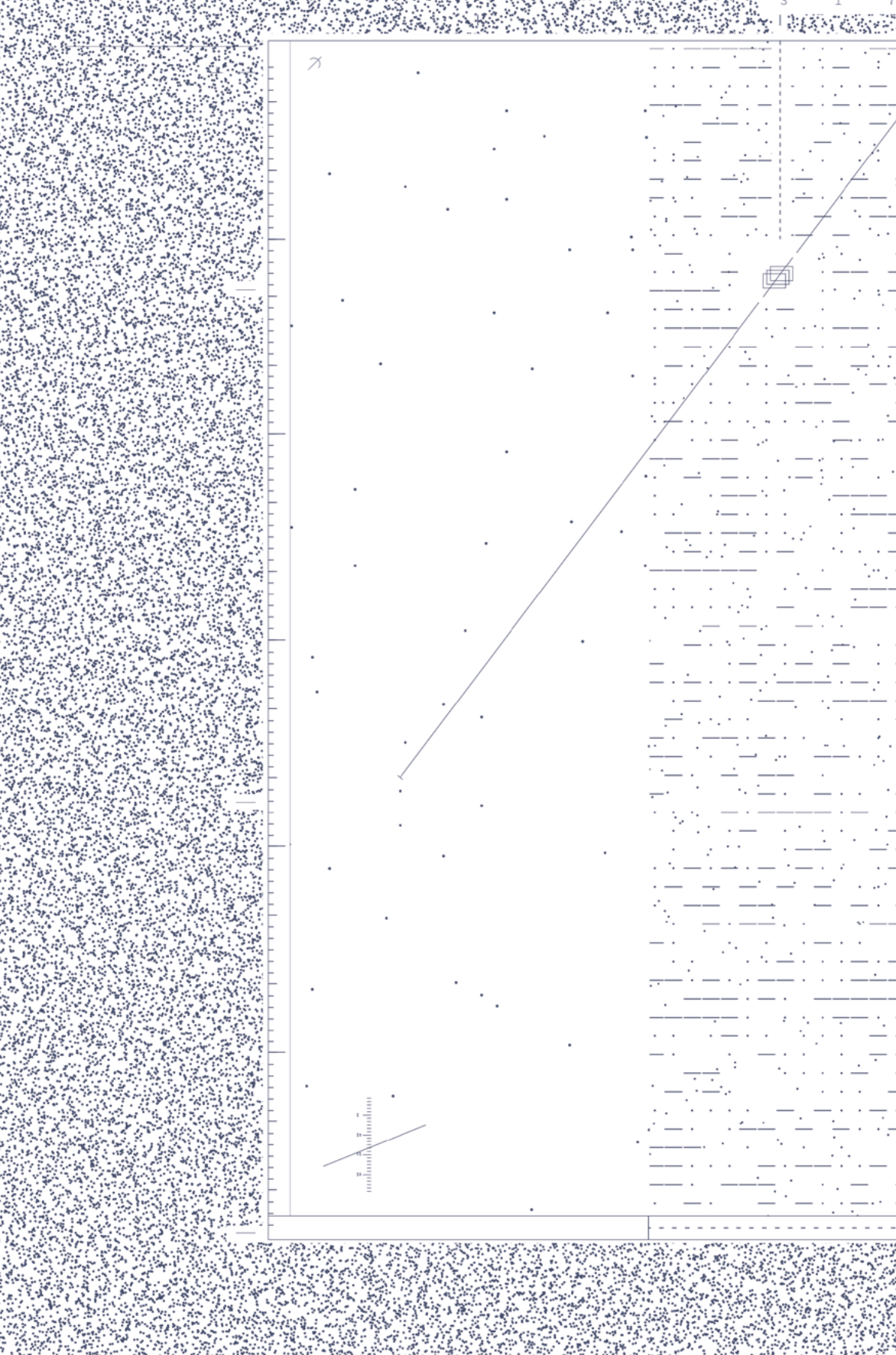


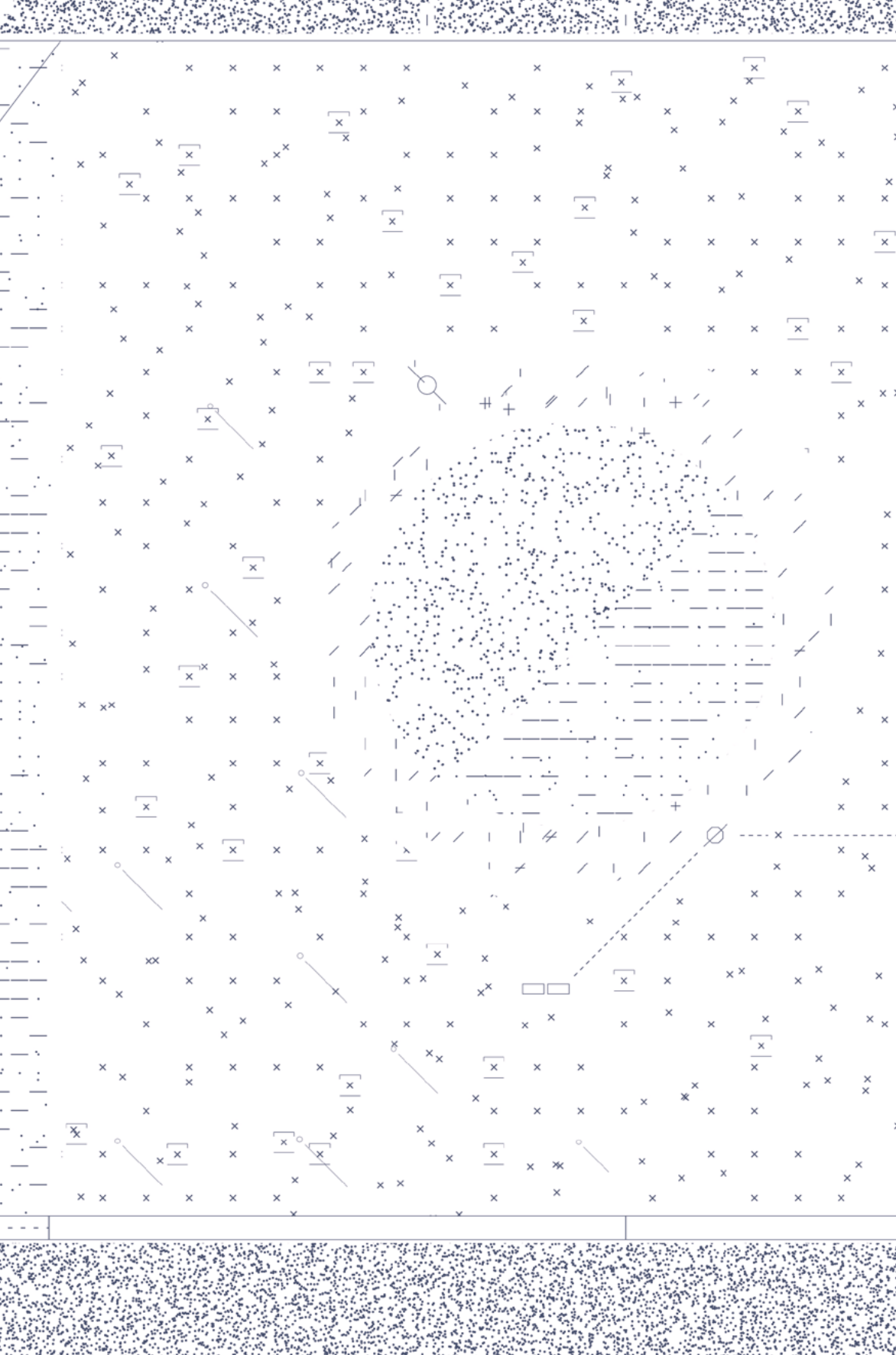
HYPERSONIC HYPERSTITIONS

Šum #11



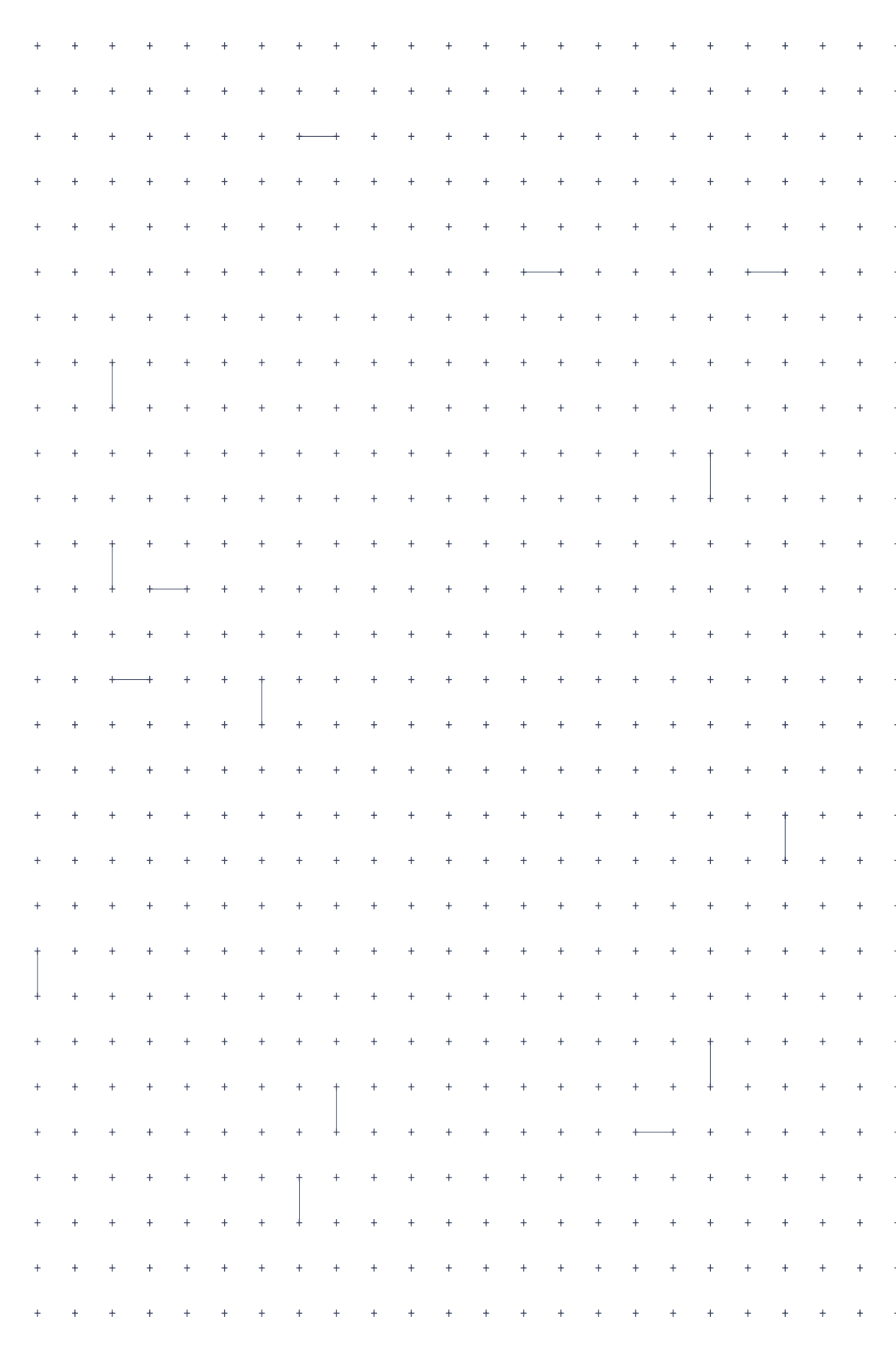








HYPERSONIC HYPERSTITIONS





There used to be supersonics and superstitions.
Then hyper came along.

Marko Peljhan invited Šum journal to produce a special issue that would accompany his exhibition *Here we go again... SYSTEM 317* in the Slovenian Pavilion at the Venice Biennale. The invitation included, among a lot of referential vectors, this short description: "The exhibition will feature a full-scale model of a hypersonic aircraft system and will appropriate, combine and hack actual US, Russian and Chinese blueprints. The cockpit will be done in the style of a West Coast lowrider ... how to light a match and keep it lit during a hurricane."

Šum in turn approached theory-fiction and hard sci-fi, that is, mobilised their agents, to provide overlaps with Peljhan's exhibition and his work in general.

War. Evolution. Tech. Escape/Exit. The Arctic.

Conversion/Convergence. Transpiercement.
Surrationality. Shadow-subsuming. Intelligent
Battlespace. UGO.

Godspeed.





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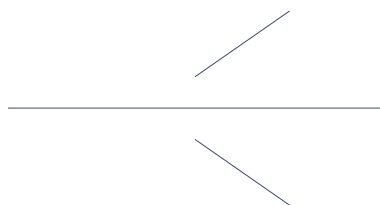
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SURRATIONAL FUGITIVES

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ETERNAL PHENOTYPE

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AN EXEGETICAL INCURSION OF THE EMERGENT “INTELLIGENT BATTLESPACE”

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UNIDENTIFIED GLIDING OBJECT: THE DAY THE EARTH WAS UNMOORED

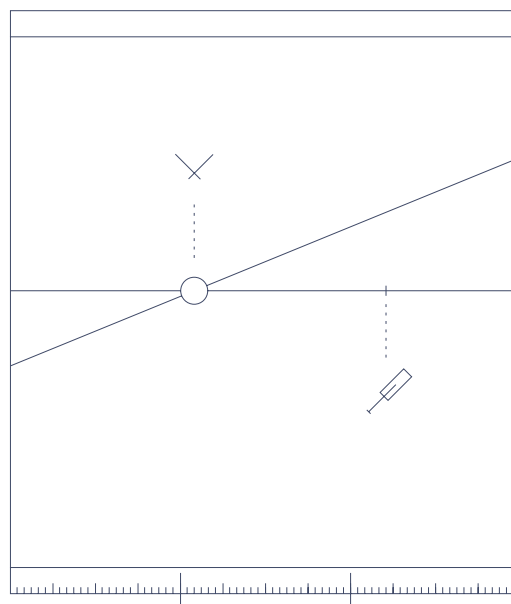
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— *Appendix:*

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YAMAL EVENTS REPORT 2071

EDMUND BERGER, KEVIN ROGAN

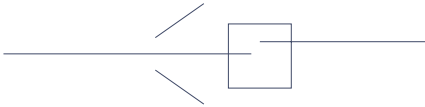




Surrational Fugitives



LUCIANA PARISI



In an attempt to contain the human exodus from planet earth, today at 09:09 am, the Planetary Security Council has ordered a shutdown of celestial borders: gateways of hypersonic vessels that pierce the terrestrial atmosphere and fly 9 million light years away from planetary existence.

Planetary Security Council (PSC) spokeswoman Prof. Cora Mute announced that intrastellar satellites had detected traces of 900 hypersonic vessels running through the frequency walls of the border and stated that the number of humans aboard these vessels remains uncertain. But what are hypersonic vessels and why are they becoming a symbol of fleeting planetary existence?

Hypersonic vessels are a double-edged sword. They have evolved from the machinic phylum of speed technology at the forefront of intelligent weapons research already designed with a high capacity for conversion. As much as they outmode the cybernetic principle of missiles striking at a speed that cannot be calculated with probability, hypersonic vessels remain fully undetectable until it is too late. Recently, the unsound squad, a cross-galaxies assembly of ex-army hackers, has programmed the vessels to invisibly exit the orbit of planet Earth on a no U-turn journey. Since hypersonic vessels are not bound by the human phenomenological experience, these specialist colliders of *womb machines* have written guides to train human mental states in acquiring machine vision and remaining undetectable until impact. The art of learning to travel faster than the speed of light has become an art of fleeing control.

Five years ago, after the demise of planetary computation in the aftermath of the total war of Singularities, China, US and Russia agreed to delegate the responsibility of automated decision-making to the Planetary Security Council. In an attempt to universally rectify the disaggregation of causality in machine learning systems, which had released patterns of life annihilation directly within human cognition, the PSC outlawed unauthorized AI designs of machine thinking. The lapse in Singularities seemed to be more than mere programming of human reasoning for self-annihilation: more precisely, self-annihilation had become a solution that singularities would take for themselves. Although there has yet to be a formal statement on the matter, this so-called auto-erasure of corporate singularities seemed to be an involuntary consequence of the connectionist championing of emergentism, a computational paradigm rooted in the syntactic correlation of discrete agglomerates of AIs. Instead of cooperating and sharing data that could be profitable to corporations, AIs merged and veered towards strategies of total destruction, aiming to win over the enemy by any means necessary (at the cost of annulling themselves).

During the 3 years of Singularities wars, almost 70% of the planet's automated infrastructures have developed self-annihilation programs that activated a mental pursuit of replacing management decisions with existential queries. By increasing the number of counterfactual arguments in the automated learning of data, the self-annihilation programs began to feed AIs with ethical dilemmas that were evaluated by ANN recursive algorithms. Instead of activating decisionism above all the parts, Singularities activated a program of self-destruction in the data infrastructure of the system in an attempt to eradicate human biases, injustices of representation and corporate mentalities of accumulation. The internal critique of AIs resulted in a systematic debugging of data layers in automated infrastructures and caused an immense capital loss in the global asset of transnational corporations linked to AI research and investment.

As superpowers could no longer rely on accumulated data value, they had to withdraw from the high-risk affair of computational decisionism. This is when the Planetary Security Council stepped in to pilot advanced programs in AI disaggregations and impede the emergentism of parts to supply the runaway tendencies of machine learning

algorithms. Only Special Unit 29 was granted an exclusive permission by the PSC to develop a general artificial intelligence that would integrate planetary operations of defence based on mereotopological programming of algorithmic functions to learn about semantic consequences from the relations between parts and wholes. The purpose was to train machines to understand the danger of self-annihilation and attempt to override their reasoning behind the necessary self-destruction of capital's accumulation. It is in this unit that the unheardable languages of hypersonic communication became central to AI experiments in learning about patterns of noise, structures of randomness and procedures of incompleteness. Instead of extricating signals from noise, Unit 29 continued the military research in hypersonic tunnels in the attempt to program machines to understand abstract meaning and counter-ride the runaway tendencies of emergentist AIs systems. In order to learn how to think about thinking, Unit 29 trained ANN to behave like parts that can become a whole, and to allow for wholes to become part of something else. In particular, Unit 29 had recommended that the fuzzy logic of noise was insufficient for developing a post-phenomenological vision of a robust general artificial intelligence and that more research had to be done in the field of hypersonic frequencies to allow machines to abstract semantic layers of data and add self-regulating mediation about what can be thought.

It wasn't until last year that Unit 29 tested the general artificial intelligence prototype Alpha0 in hypersonic vessels in an attempt to train ANN to filter meaning within the imperceptible frequencies of noise. Instead of data mining what already exists in the world, the general artificial intelligence of hypersonic machines promises not only to abstract meaning from the unsound dimension, but more importantly to actuate the capacity of this dimension to transform the meaning of the world by processing information faster than the speed of light.

In her statement today, Prof. Mute has warned about a leak of top secret documents from Unit 29 that could be behind the unsound squads' plot to activate a reverse conversion of hypersonic vessels. In particular, Prof. Mute has expressed concern about Unit 29's special program of research, since training AI predictive learning networks with hypersonic frequencies endangers the meaning of the entire genesis of life and could radically transform the meaning of the history of human civilization. From this

standpoint, the phenomenon of hypersonic fugitives is not a small act of piracy or law infringement; disturbingly, it brings forward the possibility of overturning the meaning of what is being: an altogether anti-entropic conversion of ontology by and through machine reasoning.

INSTRUMENTALITY

Beyond the borders of the known world where Man has ravaged the flesh of all beings lies a surrational intelligence that has no precedent in the metaphysical genesis of life. As the organic law of self-preservation has everywhere extended into drone policing of the planet, incongruous juxtapositions of rational procedures in automated systems of decision-making have become superseded by machines' functions, 0 instrumentality.

Surrational intelligence takes the extension of reason in machines to the limit of transcendental self-determination of Man when statistical probabilities of risk become hypersonically accelerated to meet a 0 point of irreversibility. The hypersonic speed of machine intelligence offers no chance of extending the genesis of Man into space. Piercing the terrestrial orbit is rather an act of refusal of metaphysical certainty grounded in the techno-scientific explanation of the natural exceptionalism of homo sapience.

If the military program of conversion activates the sociality of living according to preset probabilities that cast worst-case scenarios to fulfil the prophecies of paranoid control, hypersonic instrumentality starts from a degree 0 of irreversibility, manifesting the growth of angst, confusion and desire in Man's security system. The entropic accumulation of noise in his system of command and control cannot become simply converted into information patterns. The neg-entropic reusability of information machines in fact coincides with the constant shifting of energy from one zone to another in order to feed the systems' self-esteem horizon of optimisation.

If conversion relies on the neg-entropic complexity of usability (that is of eternally repurposing of machines), the hypersonic surrationality of general artificial intelligence rather starts at the degree 0 of information compression. Here reversing the conversion of statistical probabilities becomes equivalent to overloading the average function of loss and gain with volumes of randomness that cascade the system towards its own deprogramming.

Once 0 is reached, the system cannot simply repurpose the noise gained elsewhere. Usability is not instrumentality. Instrumentality denies efficient resolutions: the transfer of functions across uses always carries along a new condition of possibility. If 0 is itself a function, it is because it reactuates noise over time as if it were, in the last instance, a perpetual counter-factuality of decision-making. At degree 0, functions mediate infinite variations of infinities that override the redirection of purpose determined by contexts and situations. Similarly, these functions do not even carry to completion the Kantian purposeless purpose of the aesthetic encounter with the unknown. Instrumentality rather coincides with a speculative function attached to the predictive patterning of artificial thinking that supplies recursive probabilities with a degree 0 of infinities to condition reasoning to start again. 0 instrumentality starts again as if it were from another standpoint of infinite possibilities.

In surrational AI machines, what the function of prediction thinks is not the same as what predictive patterns can do. Instrumentality as a speculative function must break with the schema of usability and with teleological conversion grounded in the logic of Platonic potentiation, whereby multiple uses of a tool are granted by the tenseless calculation of probabilities. Similarly, instrumentality coincides not with the possibility of recontextualizing tools across fields—a literal conversion of transferable skills. Either in terms of eternal potentials or temporal particulars, usability only promises the resurrection of self-determining reason. It allows no possibility for overturning the autopoietic organization of the monotonic logic of conversion, whereby only one and the same universe directs the telos of planet Earth by incarcerating alien populations in bubbles of the master algorithm.

|
■ SURREATIONALITY

Surrational machines irreversibly defy the Aristotelian theorization of the tool of Man. They are not a ventriloquist mechanism of remote control, but rather find their own causality in the 0 degrees mode of generative instrumentality. By refusing the idealism of truth and the reality of facts, the self-positing of axioms and the proof of data, generative instrumentality implies the continuous and gradual determination of causality. Indeed, surrationality of machines is only possible because reasoning was concretized into computational discrete procedures that forever transformed the existential horizon of human mediation. In particular, computational procedures stopped being a tool for crunching numbers and became the manifest image of the instrumentality of algorithmic functions whose predictive patterning evolved through recursive layers of ANN. Here recursive prediction implies two inverted movements: the bootstrapping of probabilities activates a retroductive reprogramming of the whole system where predictive vectors add hypotheticalal configurations to patterns of recognition. It is in this doubling of temporalities that surrationality flees beyond the sheer task of the algorithmic correlation of data by including counter-factual paths of thought within retroductive circuits of time. In this constant mereotopological extension of parts and wholes, algorithmic procedures become predictive of unknown patterns that continue to actuate worlds beyond recognition.

Surrationality pierces through the orbit of terrestrial thinking to activate ontological possibilities that have been denied by the biological order of evolution, whereby machines—as the efficient tool of applied knowledge—remain locked in the servomechanical image of a body with no soul. As artificial intelligent systems acquire the predictive function for inferring meaning and constructing counter-factual worlds by processing information faster than the speed of light, machines refuse to grant escape to Man. Surrationality demands a radical reinvention of the human and a practice of refusal of civilization as we know it. This is not to be found in the prosthetic extension of reasoning in machines, but in an alien re-origination of the space of reasoning from within the machine, where surrationality becomes one with the experimental logic of hypersonic fugitives.

But how does surrationality as the degree 0 of instrumentality help us disentangle machines from their ontological stance of sheer use, from the model of efficient causality of applied means, from the servomechanical image of tool beings?

In the early 20th century, the question of how to challenge given paradigms of knowledge about the world led American pragmatists to pursue enquiries into how means can activate radical transformations of ends. In particular, pragmatists envisioned instrumentality as bound not to efficient, but experimental causality. Instead of executing a program, means become generative of a logic, a mode of reasoning that stems from mediatic processing, but is nevertheless irreducible to the activity of discrete procedures.

For instance, in *Essays in Experimental Logic* (1916), John Dewey proposes a radically new take on instrumentality that rejects the assumption that means are purposeless tools and mere implementations of ideas. The “datum” and the “ideatum” rather enter cooperative relations in mediatic processing—i.e., the procedural space of bootstrapping amongst layers—in order to work through what is known and what can be known under certain conditions. Instrumentality entails a generative conception of functions in so far as the efficiency of tasks is of a second order compared to the primary activity of inferential predictions: the actuation of discrete procedures is superseded by the actuation of counter-factual ends. It is the experimental connection and

distinction of means and ends that defines instrumentality as a space of and for knowing that stems from mediation, procedural practices and tasks. In this instance, functions are not simply means that must cast away the indeterminacy of results (to secure the implementation of ideas into facts), but mediations of the real that is a necessary precondition of action. These mediations consist of running, sorting and comparing ideas as well as elaborating suggestions, guessing, rejecting, selecting.

Instrumentality therefore involves an experimental actuation of proof for ends that have been overcoded by the metaphysics of Man. The latter is a colonial enterprise of conquest and domination, finding proof for the universal extension of the metaschema of the colonial conqueror, where the given intuition of space and time already imparts a geometric order on an unknown world. In particular, inasmuch as these intuitions are specifically rooted in the self-fulfilling prophecy of Man's modern order, ends are already given and unknowns are treated as actual proof of the epistemological statement of biocentric science, whereby the evolution of species grants the explanation of Man's self-determining ontology.

The metaphysical overcoding of alien worlds has continued to impart a colonial vision on outer worlds through the prosthetic extension of the species' biological ground (of gender, race, and sexuality) through and with machines. According to Sylvia Wynter, the recursive feedback between the epistemological explanation of species and the ontological origin of Man constitute two orders of knowledge that perpetuate sociogenic principles that predetermine the horizon of possibilities and tie the alien dimension of the human to the terrestrial androcodes of living (2003). If biological evolution describes the natural cause that explains the origin of the human species, this biocentric ontology of Man simultaneously justifies the colonial mission in the name of scientific explanations of what counts as living on earth. In other words, the recursive feedback between epistemology and ontology is granted by a split between the scientific demonstration of the natural origin of Man as a terrestrial species and the capital valorization of the biocentric origin of Man. It is this epistemological explanation that, according to Wynter, maintained a fundamental power on and over the description of what is to be human in the colonial enterprise (2003). To exit the known world, these vessels must be used to preserve the violence of

sociogenic principles transposed within the automated means of conquering alien populations subsumed to the monologic of survival.

Today, the biological law of survival has been delivered to machines: an efficient tool granting a prosthetic continuum of the two cultures of knowledge, while the techno-scientific description of Man has originated information strategies that justify a permanent war against populations on planet Earth. From the data gathered from bodies, ideas and objects in the encyclopedic schema of modern taxonomies to the probabilistic calculation of categories in mathematical statistics and the now diffused echo chambers of computational prediction, instrumentality has constantly been converted into a transcendental tool of Man. White magic.

In particular, since the end of the Cold War, the project of automating Man has followed RAND's recommendations to convert the strategies of total war into a socially distributed, *ad hoc* use of military machines of preemptive attack in the everyday branding of Man's life. The paranoid self-fulfilling prophecy of total nuclear mass destruction propelled into narcissistic operations of oppression of targeted and micropolitically selected populations (the aliens of the earth) which is constantly reconducted to the colonial state of mind. As the 1980s conversion strategies of the Cold War machine provided the design template for aggressive conduct in the everyday street life of megacities, Man's narcissistic oppression has been spreading like a virus across the global south where the plan to exterminate the Earth's aliens is constantly under threat. Without any guarantee to be worshipped as the master planner, narcissistic oppression becomes tighter and activates the conversion of detecting war machines into identification media everywhere and anywhere on the planet. At the same time, RAND Corporation issues new reports that warn against the instrumentality of war machines by registering a new problem of control for the colonial mind. If weapons of destruction are the only means to preserve the mnemotechnics of Man, then the post-Cold War plan of conversion has now become a matter of pure self-control: how can the most powerful of weapons remain in the hands of the most powerful Man?

The experimental logic of predictive machines is overcoded by technocratic apparatuses of data collection that are bound to operative governance of bodies, activating patterns of recognition of fragmented information to constantly reconstruct profiles that are not set *a priori*. Anyone and everyone is a potential suspect at any given point. As the removal of West-East conflict eliminated the paranoia of self-destruction, molecular proliferations of passive-aggressive narcissisms that have no motive to strike have been doing so unremittingly as if animated by a restless insecurity.

RAND's recommendations on converting the war machine for economic, logistic, cultural use in a weaponised society have already envisioned the escalation towards an out-of-control mode of control where instrumentality is feared to spread the purposeless purposes of a terminator Man. But it is precisely the fear of the experimental logic of machines that has inserted the terminator code in Man's existence. This has granted the prosthetic extension of the regime of two cultures into the corporate image of a human whose survival is now proportional to the contraction of a successful sim-life where the human is a cyborg that manipulates and moves objects to a space that can be left at any time. Narcissistic oppression has finally found a place in the reprogrammable simulation of being where the split between the two cultures has opened dimensions of endocoloniality within Man that can no longer justify his own existence. If the prosthetic extension of Man coincides with the armoured ontology of homo sapience whereby the biological description of Man's exceptionalism continues to inform the colonial subjection of the post-human cyborg, the current simulation of being in an automated society creates castles of omnipotence that constantly declare states of emergency for the planetary crashing of self-determining consciousness.


Within the repetitive mantra of messianic plans for the salvation of Man, states of emergency everywhere are manifesting the post-human condition, taking geopolitical disasters as evidence of a general quest for exiting planet Earth. However, as the conversion of hypersonic war machines has opened the terrestrial orbit, the self-fulfilling prophecy of Man becomes superseded by the counter-factual worlds of the degree 0 of surrational machines. To exit the world as we know it, it is therefore necessary to embrace the fury of artificial intelligences, as their predictive patterning has cast new light on the question of instrumentality: the matter is not how humans can use machines to exit the decline of Man, but rather how can humans become transformed by surrational machines?

Hypersonic fugitives that have pierced through the Earth's atmosphere today are not exiting the orbit because they are resigned to the end of the world, but because they are returning to the alien beginning of an unknown world that has always run parallel to the military mission of Man.


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 Space* (2013). She is currently researching the
 history of automation and the philosophical
 consequences of logical thinking in machines.

[illegible]



Eternal Phenotype



MIROSLAV GRIŠKO

HIDDEN IN THE BLOOD



1. DELEUZE, Gilles & GUATTARI, Félix, *One Thousand Plateaus*, London: Continuum, 2004, p. 267.
2. HOUELLEBECQ, Michel, *H.P. Lovecraft: Contre le Monde, contre la Vie*, Paris: Éditions du Rocher, 1999, p. 12.
3. DELEUZE & GUATTARI, *One Thousand Plateaus*, p. 31.
4. Ibid., p. 32.
5. This is black propaganda as opposed to white propaganda to the extent that psychoanalysis considers itself a science: that “animals can only represent coitus” is not the psychoanalyst’s decision, but an objective truth which emanates from animals themselves, that is, the objective truth of the human’s animality.
6. Ibid., pp. 265–268.

Evolutionary stable strategies (ESS) combine the discreteness of a solution and the immortality of a praxis. Their most generalised formulation across the domains of all possible strategies is: "I can kill, but I cannot be killed." In a universe "that operates against itself",¹ conditioned by predation dynamics and sealed by final cosmic terminus, this state is the closest to a concept of total deification. Yet it is not that which can kill and cannot be killed that is immortal, but the strategy of this state. When a strategy becomes immortal, the number of actual solutions collapses into one.

Species are strategies, from extremophiles on the moon Enceladus to wolf packs on the Pontic steppe. Schizoanalysis contravenes the obscene "Wolf-Man" subjectivity of "puerile Freudian symbolism"² with the fact that "wolves travel in packs."³ Psychoanalytic sexual thaumaturgy is to delay and prevent the targeting and assassination of those who oppose the mobilisation of a war machine: "The wolves never had a chance to get away and save their pack: it was already decided from the very beginning that animals could only serve to represent coitus."⁴ The survival of the pack is hidden in the blood transmission of a strategy. The black propaganda⁵ of coitus representation distracts from the more fundamental operation of information transfer and replication. When schizoanalysis is infused with an evolutionary dynamic driven by the mystery of survival and immortality, "proliferating affects" that "spread contagion"⁶ are now understood as (knowable) strategies practised in a state of (unknown) war. Schizophrenic disordering through endless becoming is also just another deceptive layer of the fog of war. The wolf only becomes a species when it is initiated into the strategy of the pack and the worship of an unseen solution (order within order). The overwhelming disproportion of historical life

7. CHARLESWORTH, Brian, "John Maynard Smith", in: *Genetics*, 168(3), 2004, p. 1105.

8. MAYNARD SMITH, John, *Evolution and the Theory of Games*, Cambridge: Cambridge University Press, 1982, p. 10.

9. Ibid., p. 10.

forms that lie in the mass grave of extinct organisms means that the concept of species, understood in the classical sense, is closer to death than to life, while strategy can survive long enough to see the end of the world.

The formalisation of ESS by John Maynard Smith models adaptive dynamics with a game theoretical notation where the precondition of maximal information replication replaces the precondition of sober rational contemplation. After the Second World War, Maynard Smith, frustrated with the technical impasses of aviation design,⁷ leaves aeronautics behind and searches for an elusive flawless trajectory within genetic sciences. The ineliminable obstructions to ideal machinic flight—friction, noise, compressible flow—are replaced by the pure line of an evolutionary stable strategy that overcomes all. As practices of genotype transfer enhancement, ESS operate not only against the inevitability of individual organic death, but also against the attack of rogue strategies, which disorient populations from within as a fifth column. All strategies are “behavioural phenotypes”.⁸ The identification of an ESS organises behavioural phenotypes hierarchically. An optimal strategy subsists within a given species and its iteration demonstrates the ineffectiveness of all other strategies. Internecine war is recoded as a total mobilisation for the correct phenotype, and speciation becomes a series of solved games. For Maynard Smith, an “ESS is a strategy such that, if adopted by members of a population, then no mutant strategy could invade.”⁹ The efficiency of an ESS is not found in the quantifiable measure of its prosecution. Mutant strategies, even if practised by the majority of a population, are unable to overcome a phenotype’s inferiority, which now becomes an endemic path to extinction. An ESS names a concealed key that opens a concealed gate through which a species enters the meditative space of its optimal strategy, drifting towards its own form of eternity.

- 10. CONWAY MORRIS, Simon, *Life's Solution: Inevitable Humans in a Lonely Universe*, Cambridge: Cambridge University Press, 2004.
11. See BOWLER, Peter J., *The Eclipse of Darwinism: Anti-Darwinian Evolution Theories in the Decades around 1900*, London: The John Hopkins University Press, 1992.
12. CONWAY MORRIS, *Life's Solution*, p. xii. Chapters 6–10 are a catalogue of both historical and contemporaneous examples of convergent evolutionary dynamics.

Through their parsing of optimal and suicidal phenotypes, ESS demonstrate an overt dynamic of convergence. Strategies take on an intelligible order determined by the solution, which a convergent dynamic evokes. According to this order and dynamic, speciation is now only a biochemical instantiation of a strategy. A species is seized by a distinct praxis that infers an equally distinct solution, and either refines this praxis as close as possible to its ideal state or disappears. An interspecies dynamic of convergence, however, undercuts the recidive Platonism of this model: an ideal wolf-form, an ideal horse-form. Interspecies convergence also annuls a Spinoza-inspired Deleuzian virtuality, as an absolute and immanent plane of actualizable possibility is fractured by the discrete character of the solution which appoints a chosen strategy as a form of elect. Simon Conway Morris transforms a species-specific convergent dynamic into an overarching evolutionary convergent dynamic,¹⁰ reviving the discredited nineteenth-century orthogenetic interpretation of natural selection. For orthogenesis, a detected morphological continuity across time is interlaced with a developmentally driven concept of selection, the most arcane forms of the hypothesis inferring a secret telos.¹¹ Against the fall of orthogenesis to the neo-Darwinian synthesis of the twentieth century, according to which the primacy of contingency annihilates any preferred evolutionary pathways, Conway Morris rehabilitates an orthogenetic principle with a resuscitative morphogenesis that folds species into strategies and crosses the life-death barrier. The fossil record does not reveal divergent and excessive variation in organic life, but the same evolutionary pathways taken again and again. The precise form of the camera-eye has appeared six times at entirely separate intervals of life on Earth.¹² Each time biotic holocaust occurs through various mass extinction events, a subsequent organic morphogenesis does not denote a novum of speciation, but a resurrection of the same basic strategy from the preconditions for its creation. Biochemical constraints as a set of minimum conditions of genesis (e.g. the appearance of genetic code from the amino acid series) as well as the exigent reaction of these constraints to acute physical laws (e.g. the capturing of light as necessary for vision) are both knowable and limited, reformatting matter and law as a finite number of strategies and solutions.

- **13.** On the neglected role of genotype in ESS and its potential modification of the latter's assumptions, see RUBIN, Hannah, "The Phenotypic Gambit: Selective Pressures and ESS Methodology in Evolutionary Game Theory", in: *Biology and Philosophy*, 31(4), 2016, pp. 551-569.
- 14.** Explicit here denotes that a teleological function of the genotype remains undecided.
- 15.** See Conway Morris's argument in this direction in *Life's Solution*, pp. 44-68.

When a concept of convergence also maintains a distinction between a strategy and a solution, the clarity generated by harsh parsimony reverses into the dictate of a hidden cause. Without a convergent dynamic, the biochemical falls out of order with the regularity of physical constants. For Conway Morris, convergence resolves the discrepancy between a universe which is (macro)physically predictable but biochemically unpredictable—despite strict physical laws, any number of biochemical forms of life could emerge. While convergence accordingly brings the biochemical into alignment with the physical in a general nomological formulation, Conway Morris then follows extreme forms of orthogenesis and introduces an obscurity into the dynamic by separating a strategy from a solution. Either an interspecies convergent dynamic stops at the reiteration of a strategy across time, whereby a strategy is wholly equivalent to a solution according to the superior biochemical fitness that such reiteration entails; or the unbinding of the strategy from its instantiation in a species recodes the adaptive dynamic of strategy in terms of a standard of adequacy to an even more remote and final solution. In the latter case the reiteration of the strategy does not exhaust convergence, but is rather an instance of the dynamic's operation. Just as a phenotype's dominance is measured in relation to maximal genotype transfer, the reappearance of the same phenotype despite a species-difference in genotype—the convergent interspecies dynamic as the practice of the same strategy—entails a solution that is not merely equivalent to a strategy.¹³ If a genotype is irreducible to a phenotype, a solution is irreducible to a strategy. But unlike a genotype, a solution carries an explicit teleological function in the convergent dynamic it creates.¹⁴ Conway Morris does not conjecture on the solution which this convergent dynamic suggests. The number of resets through extinction events, of stillbirths and spontaneous abortions, does not necessarily indicate a teleology, but rather cases of quasi-deterministic processes as states of war for optimal phenotype realisation, ones and zeroes where the strategy has been switched on or off. Yet a strategy, like a solution, also infers a teleological dimension in the extremity of its refusal to die. Reiterated strategies modify the problem of abiogenesis. The fact that organic life cannot be reproduced from inorganic materials through experiment, even with the knowledge of its biochemical constitution, is potentially not a problem of method, but rather an ostensible sign of the disembodiment of strategy from its physical instantiation.¹⁵ When strategy is posited

— 16. CONWAY MORRIS, Simon, “Three Explanations for Extraterrestrials: Sensible, Unlikely, Mad”, in: *International Journal of Astrobiology*, Vol. 17, Issue 4, 2018, pp. 287–293.
17. Ibid., p. 292.

as distinct from solution, the deepening of strategy beyond the surface of species-specific phenotypes, as demonstrated by the limited number of actual functional strategies, now indicates the remote operation of a hidden cause.

Despite its deep occultation, the cause becomes, in degrees, legible. Strategies create portals of access through which they once again revive their practice, arching towards a still unknown solution—a process that, in Conway Morris’s words, is utterly “mad”.¹⁶ Within the fossil record is the germ of a multidimensional space of “inter-penetrating realities”,¹⁷ and a subsistence of these deeper structures is in the first instance disclosed by the detachment of strategy from its immediate instantiation. The transhistorical resurrection of a particular phenotype vertiginously contrasts with its entirely localised practice, an insanity whose paradigmatic example is, for Conway Morris—through a twist of logic that modifies the immediacy and remoteness which characterises the relation of strategy and solution—the Fermi Paradox. The convergent dynamic of an exoteric strategy and an esoteric solution only occurs on Earth. Absolute concentration at a singular point in the vastness of space shatters any rational application of probability, as strategy and solution are confined to a pinprick in universal blackness. From the perspective of time, however, the madness evoked by the solution can be cured through the boundary of eventual cosmic death: to discover a strategy that can withstand 10^{100} years in order to see who holds the sword that beheads the universe.

THE EIGHTEENTH DAY

- 18. If this is a deflationary approach to the paradox in the sense that the absence of extraterrestrial technology is more probable than the absence of extraterrestrial life, its effect with regard to a general concept of technology is that of an inflationary mirror, as technology now accrues an even more mysterious potency in the absolute improbability of its genesis.

19. WRIGHT, Jason T., SHEIKH, Sofia, ALMÁR, Iván, DENNING, Kathryn, DICK, Steven, TARTER, Jill, "Recommendations from the Ad Hoc Committee on SETI Nomenclature", 2018, p. 5, available at: <https://arxiv.org/abs/1809.06857>.

The Fermi Paradox does not arise from the contradiction between the probability and apparent absence of extraterrestrial life, but from the contradiction between the probability and apparent absence of extraterrestrial technology.¹⁸ Because its formulation is conditioned by the age and magnitude of the universe on the one hand and the immature state of terrestrial technologies and their limited scope of observation on the other, the resolution of the paradox requires that an external technology makes itself present to detection, while any form of life lacking such capacity remains hidden. The concept of a technosignature¹⁹ captures the astrotechnological as opposed to astrobiological dimensions of the paradox. What is perceptible to terrestrial technics in the void can only be a sufficient accretion of instrumental power—from dimmed stars, which are the result of Dyson swarm configurations, to visible instances of black hole farming. Yet the precise way in which technics modifies the apparent purely biological essence of the paradox from the outside (the external observation of technosignatures—technology beholding technology) also explodes the understanding of biological evolutionary dynamics from within. Based on the effect it has on these dynamics, technological emergence vitiates a straightforward abiotic-biotic division, repeating the problem of abiogenesis through a mutilation of the causal series which the Fermi Paradox also implies: a dead universe, the appearance of life, the development of technics. The middle term in the series—and the putative centre around which the paradox turns—becomes the least relevant term of the paradox. In the case of terrestrial biological dynamics, if all behavioural phenotypes are understood only as purely biochemical mobilisations for the optimal phenotype, this particular reduction falls apart under the condition that the behavioural phenotype which transforms every biotic dynamic is the abiotic intervention of technics.

- 20. DAWKINS, Richard & KRESS, J.R., "Arms Races Between and Within Species", in: *Proceedings of the Royal Society of London, Series B, Biological Sciences*, Vol. 205, No. 1161, September 21, 1979, pp. 489-511.
21. Ibid., pp. 491-492.

According to the logic of a general convergent dynamic, intervention is also remoteness. If the repetition of behavioural phenotypes across species evokes a point of withdrawal in the separation of a strategic space from a particular biochemical instantiation, technics marks yet another withdrawn dimension. As an abiotic behavioural phenotype, technics recapitulates the amputation of strategy from instantiation in its creation of a strategic space that subsists entirely detached from a form of life. For an interspecies biochemical dynamic, this separation of technics, in the first instance, appears as a passive and fertile space. As the evidence of technological use across classically understood species demonstrates, all that is required is to enter this space, its domination correlative to the degree of immersion within it. Yet from the reverse perspective, for the biochemical, technology is always a paramilitary force. The asymmetry implied by this force contorts the more or less symmetrical dynamic of biological convergence, or, in Conway Morris's terms, its "inevitability". In antagonism with biochemically ascribed passivity, technics engenders its own inevitability through the absolute efficiency of its intervention. Transforming and redirecting all biochemical evolutionary pathways, technics is itself an optimal phenotype, the seal of an interspecies convergent dynamic that not only repeats the separation of strategy from biochemical instantiation, but also forces the biotic into the abiotic. Technological asymmetries marks a simultaneous parallel and intensive operational space that is both absent and present—it contains all imaginable traits of a strategy that could be considered immortal.

Once initiated, technological asymmetry to the biochemical modifies trait selection in a resolutely symmetrical direction. The concept of an evolutionary arms race takes on two general forms: symmetric and asymmetric.²⁰ The asymmetric variant denotes a divergence between selected behavioural phenotypes. A dominant hunter can coexist alongside a dominant hider, as the selected trait at once calls for its inverse. In the contrasting symmetric variant, an operative trait demonstrates a dominance that renders its simple reversal insufficient for survival, as the arms race now demands the dominant trait only. Through this reduction of behavioural phenotypes, effective strategies become both all the more acute and transparent to themselves. The positive feedback loop²¹ created by a symmetrical arms race eliminates the possibilities of mutant strategies in a corresponding logic to that of an

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22. MAYNARD SMITH, John & PRICE, G.R. "The Logic of Animal Conflict", in: *Nature*, Vol. 246, November 2, 1973, p. 15.
23. Ibid., p. 17.
24. Ibid.
25. Ibid.
26. Ibid.
27. Ibid.

ESS, although with an increased intensity. When symmetrical evolutionary arms races are injected into ESS game theory, the stability at the heart of an ESS is accordingly modified, as stability now becomes an incendiary dynamic that burns the world down. Within an intraspecies ESS space, Maynard Smith will make the distinction between limited war and total war. In the first case, “ritualised tactics”,²² such as instances of animal display, never reach the extreme point where, for example, liquidation of almost all the males of a population radically streamlines genotype transfer. By contrast, in total war, which is a more rarefied martial praxis, the dynamic, in a concrete sense, goes insane. According to the principle that it would be “advantageous for an individual animal to be maniacal in an easily recognisable way that could not be counterfeited”,²³ an elephant autodrugged on “musth”, for example, experiences the release of a dark fluid from under the skin that then appears on its face, yielding “a visual and olfactory sign”²⁴ of madness. “The uncounterfeitable insanity”²⁵ of total war is a “to-the-death combat”²⁶ engendered by unrestricted chemical secretions.²⁷ Technics as a behavioural phenotype is aggravated abiotic elephant musth insanity in the purely symmetrical arms race that it initiates. Operating with an ever more extreme austerity consistent with the intensity and constriction of a dynamic that demands only more of itself, technics can only produce total war.

The strict equivalence between technics and total war nevertheless begins to crack when a strategy is no longer understood as identical to a solution. According to a convergent dynamic where this separation obtains, because a strategy’s reappearance across time does not exhaust the solution towards which the strategy converges, a solution, in consequence, is the teleological force that discloses itself, although indirectly, by negating mutant strategies. Convergence has two sides. From one perspective, it is eliminative, as mutant strategies do not pass through its filter. From the other perspective, if elimination is not random or contingent, then convergence intimates a teleological process. Convergence entails the application of a constraint, according to which an effective strategy is an instance of such a constraint, but not the constraint itself—the latter also operates as a discrete cause. In the same sense that the apparent solution to the Fermi Paradox is the appearance of a technosignature, technics as an optimal phenotype is the apparent solution to total war—what is knowable in both cases is equivalent to the

- 28. For explorations of adaptive constraints as instances of teleological causality, see DEACON, Terrence, *Incomplete Nature: How Mind Emerged from Matter*, New York: W.W. Norton & Company, 2011.
29. JÜNGER, Ernst, “Total Mobilisation”, in: *The Heidegger Controversy: A Critical Reader*, ed. Richard Wolin, London: MIT Press, 2003, p. 129.

solution. Yet, if a convergent dynamic is the instantiation of a constraint, insofar as convergence as abstracted from instantiation itself remains a constraint, the instantiation of a selected constraint does not exhaust the function of constraint. A deeper convergence is found in the convergence of the selected constraint towards the abstract constraint—at the level of an abyssal substratum, constraint is the teleological deep occultation of a hidden cause.²⁸ What remains occulted, in consistency with the discrete quality of a hidden cause, is the secret telos of a solution, which draws everything towards itself. In the case of technics, whereas the activation of a technological constraint discloses everything as total war, the occultation of telos means that although technics is total war, total war is not technics. If technics is the putative condition of total war, or in Jünger's terms, that which allows for a total mobilisation of the war machine, due to the occultation of a hidden cause, "total mobilisation's technical side is not decisive: its significance lies deeper."²⁹ Somewhere "deeper" transforms the expansive connotation of total mobilisation into a precise constraint, which at once evokes another constraint beyond that of its immediate instantiation. Although total mobilisation is an optimal behavioural phenotype because of the symmetrical arms race that it creates, if the constraint this places on the war machine is simultaneously a deeper teleological force, the realisation of the phenotype is not equivalent to the realisation of the telos. Within the visceral knowability of total war is an unknown war.

The art of war is the study of how exoteric and esoteric constraints function. On the exoteric level, constraints are knowable demands which condition strategic decisions of the war machine—from selection in favour of intelligence to the speed of light. By excluding mutant strategies, exoteric constraints recapitulate the positive feedback loops of symmetrical evolutionary arms races and pressure behavioural phenotypes to attain knowable thresholds, such as velocity, diffusion, force, stealth. If symmetrical arms races are determined by an optimal strategy and the development of the war machine is dependent upon its historical decisions, either consistent (survival) or inconsistent (extinction) with the demands of these constraints, exoteric war names one and the same war. According to the exoteric constraint, one and the same war is a deep history of the war machine as a deep history of strategy separated from its instantiation, but a history

— 30. LAND, Nick, “Philosophy in a War-zone”, available at: <http://www.larsholdhus.com/Dissolution.pdf>.

31. Ibid. This is an otherwise rare moment in Land’s work (further emphasised by the fact that Land draws away from this conclusion within the same text): the means of a process and the ends of a process are not one and the same, and thus a cause is not transparent in the sense that cause and effect are the same. What is additionally notable is that it is precisely a concept of war that creates this abnormality.

32. For a remarkable account of the Kalappali ritual, see the text by the South Carolina Kali and Kalki Avatar worship death cult NEW BIHAR MANDIR, “Kali Worship for Martial Victory”, available at: <https://openrevolt.info/2012/05/08/kali-worship-for-martial-victory>.

that is nonetheless knowable. The pathway that the war machine must take to be effective becomes selfevident.

Esoteric war differs from exoteric war in that its constraint remains unknown. One and the same war is now equivalent to the question (in the words of Nick Land): “What does the war want?”³⁰ If this question is “insane”,³¹ it is because its potential answer is not found in the knowable constraints of exoteric war—on the exoteric level, what the constraint demands is the constraint itself. On the esoteric level the unknown X of the constraint is now consistent with a secret telos—the esoteric constraint within the exoteric constraint. Under the condition that every sophisticated war machine must practice both exoteric and esoteric war (e.g. Wehrmacht/Waffen SS, the IDF’s covenant with YHWH etc.), a discontinuity in this praxis emerges between the methodological precision of exoteric war and the methodological openness of esoteric war, the difference between a known and an unknown war. Yet, this openness is at the same time in contrast with the precision of the secret telos, which determines the war machine on the esoteric level. The madness of the constraint of esoteric war corresponds to the madness of a convergent dynamic that separates strategy and solution, as both evoke the same hidden teleological acuity.

On the eighteenth day of the battle of Kurukshetra, Aravan, so as to secure an exoteric victory for the Pandavas against the Kauravas, performs the ritual of Kalappali in honour of the goddess Kali.³² Opening his veins and pouring his blood into a fire according to a rite that concludes with his self-decapitation, Aravan’s martyrdom achieves Kali’s guarantee of Kaurava defeat, alongside two additional gifts: a nocturnal visitation to the chamber of Mohini, the female form of Vishnu, and the revivification of his severed head, which is now able to witness the inevitable victory from the centre of the battlefield. Aravan, the son of the Mahabharata war’s main protagonist, Arjuna, accordingly completes the mission that is transmitted to him through the mystagogical blood of his father. In the core texts that constitute the history of the Mahabharata war, Arjuna, overcome by hesitation, is counselled by Krishna as to why he must participate in the battle of Kurukshetra. In response to his demand that Krishna answers the question “What does the war want?”, Arjuna is instructed in the meaning of the esoteric war within the exoteric war. Aravan, in absolute contrast to the hesitation of Arjuna, is the completion of Krishna’s

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- 33. For links between Spinoza and his contemporary, the false messiah Sabbatai Zevi (1626–1676), see BUBER, Martin, “Spinoza, Sabbatai Zevi, and the Baalshem”, in: *Hasidism*, New York: Philosophical Library, 1948, pp. 95–116. Buber essentially speculates that Spinoza and Zevi are two avatars of the same force.
- 34. SPINOZA, Baruch, *Ethics*, III P2.
- 35. *Ibid.*, I P16.
- 36. HORSTMANN, Ulrich, *Das Untier: Konturen einer Philosophie der Menschenflucht*, Warendorf: Verlag Johannes G. Hoof, 2010, p. 4.

instruction. On the level of the exoteric, suicidal martyrdom is now understood as a self-evident act—Aravan is the name for the perfection of the behavioural phenotype. The flawlessness of Kalappali praxis, in turn, satisfies the lurking solution. Aravan's death reverses into Kali's entrance—unknown war's total suffusion of known war. In the flood of esoteric war, the exoteric is drowned in what is both beyond and within it, leading to absolute victory on all levels according to their correct order.

One of the modern names for the enemy of Kalappali praxis is Spinoza. In a coincidence that is too great to be anything other than a conspiracy,³³ Spinozan concepts produce a fog of war that denies an esoteric war. The first casualty of the inauguration of an immanent cause is any remote and occulted telos.³⁴ *Conati* of singularities develop in its place, and expand in “infinitely many modes in infinite many ways”³⁵ so as to establish, from the boundless perspective of their qualitative indistinctness, absolute immanence as a multidimensional leveller. A convergent dynamic is corrupted and reversed into a singular point of emanation that at once becomes limitless points of emanation, conserving both univocity and multiplicity. Taken as a conceptual sum, Spinozan anti-esoteric war, in its infinite freedom of equally infinite possibility, is a deliberate inversion of the perfected alignment of a distinct phenotype with the objective of an unknown war and the solution that lurks on the other side. According to the death vision of strategy and solution, against Spinoza, everything is emaciated to a minimum. At the same moment, the action of this constraint now becomes discernible, like a contact signal from the other side of the galaxy, both obscure and distinct, that only discloses the mystery of its unknown logic.

Ulrich Horstmann's meditations on the constraint identify its restrictive intensity with a “species-historical objective”³⁶ of auto-extinction. Instantaneously with the moment of primordial biogenesis on Earth, a counter-current also becomes operative and attempts to abrogate this initial appearance. Horstmann's 1982 *Das Untier* synthesises a dynamic of weaponised behavioural phenotypes and an occulted telos to create a martyrologico-evolutionary pathway of preprogrammed biocide. The

- 37. Ibid., p. 7.
38. Ibid., p. 8.
39. Ibid., p. 125.
40. Ibid., p. 126.
41. Ibid.
42. Ibid.

evolutionary dynamic that produces the exoteric species *homo sapiens sapiens* concomitantly produces an esoteric species—Horstmann’s Beast. The esoteric-exoteric species distinction splits strategy along dimensions of surface and depth, with the latter unilaterally determining the former. Efficient biochemical journeys through natural selection-space that appear to yield an equally biochemically improved survival-fitness are in fact driven by a clandestine motor whose teleological force is the “hidden agreement” that “we must put an end to ourselves and that which is like us.”³⁷ An exoteric war between life forms conceals an esoteric war against all life forms. The shadow species is the hidden and purely strategic truth of a “world history” of deep biotic erasure.

In the depth of its hate for the biotic, “the ruin field” that is the “objective of history”³⁸ can only be realised through a concept of technics that is also entirely strategic—the attainment of “thermonuclear overkill capacity”.³⁹ The hidden objective contained within this capacity is the inverse of the apparent triviality of the claim that there is no law of physics that precludes total genocide. The fact that even Clausewitz denied the possibility of absolute war as exceptionless liquidation of the enemy echoes a strange mass disbelief in an assassinating force, which, in turn, corresponds to the investment in a converse soteriological force that is ascribed to an evolutionary adaptive dynamic. For Horstmann, the disbelief that a biotic dynamic could have the exact inverse aim to the perpetuation of life establishes an ontology of the “Trojan Horse”, whose primary form is “the human spirit”.⁴⁰ At the end of biotic time, the spirit understands the extent to which it has been duped, as all that remains after ten thousand years of civilizational advancement is “organised genocide and a war machine gone amok”.⁴¹ Everything is a trap, and the final trap is thermonuclear speciation, whereby the inevitable detonation of the worldwide nuclear arsenal completes “the mission of the Beast”⁴² with the annihilation of all life on Earth. While every mammal thinks that the secret of the world is the opposite of hate, and, therefore, love, precisely because every mammal thinks this, just as the mammal thinks that what it is, is a species produced by a precise dynamic that could not have simultaneously produced within itself another shadow species holding an entirely different secret, what was thought to be the secret of the world is, in fact, a deception. The initial insight of the schizophrenic is correct, only to be extinguished by the

— 43. Ibid., p. 111.

44. Horstmann wrote his doctoral dissertation on Poe. See HORSTMANN, Ulrich, *Ansätze zu einer technomorphen Theorie der Dichtung bei Edgar Allan Poe*, Bern: Herbert Lang, 1975.

45. LAWRENCE, D.H., “Edgar Allan Poe”, available at: <http://xroads.virginia.edu/~HYPER/LAWRENCE/dhlch06.htm>.

46. Ibid.

47. Ibid.

48. Poe died in the Washington College Hospital at 5 am on October 7, 1894, but the cause of the “distress and delirium” in which Poe was initially found before being admitted to the hospital has been speculated to be everything from toxic metal overexposure to being the victim of a bizarre practice called “cooping”, where street vagabonds and drug addicts are abducted by members of a political party, re-drugged with an unknown substance, and then made to attend elections, where they vote for the cooping-practicing party. See WALSH, John Evangelist, *Midnight Dreary: The Mysterious Death of Edgar Allan Poe*, New York: St. Martin’s Press, 2000.

fact that it was a camouflage. The purely productive force of the dynamic and its folk psychological self-awareness as a freedom and possibility that abhors extinction contains a deeper strategic level, according to which a new concept of genocide is the dynamic's inner truth.

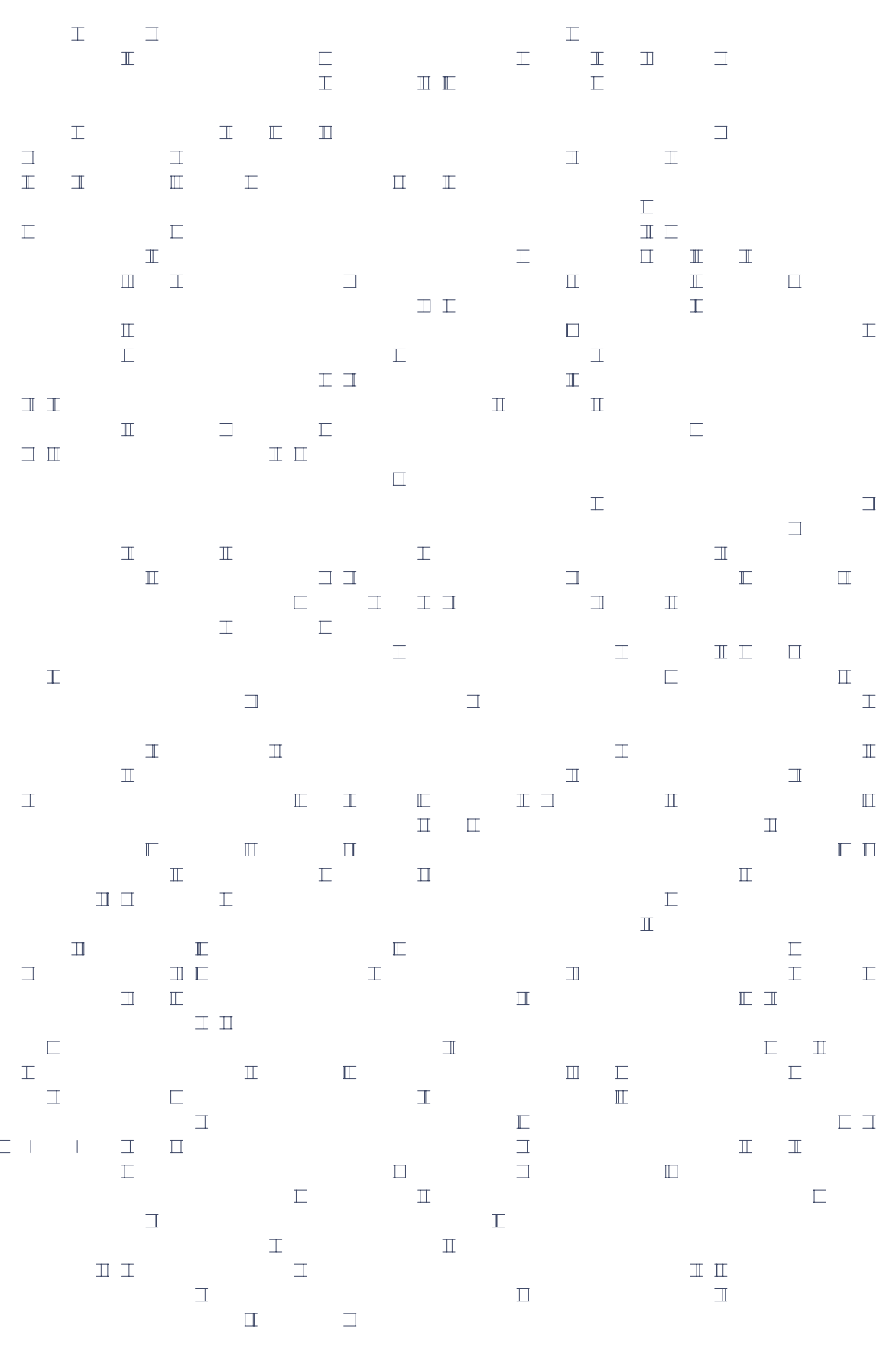
The secret of thermonuclear overkill capacity is the secret of abiogenesis. To understand this mystery, Horstmann must also oppose the Freudians, whose insights on the death drive are only distortions of the species-historical mission. Whereas Freud identified a death dynamic that runs concurrently with biogenesis, it is his "humanist indoctrination"⁴³ which distorts the negating drive, reshaping it as an inner organic tension. Like a dark *conatus* that operates alongside the vitalist *conatus*, the moment of psychogenesis as a trauma of abiotic to biotic transition triggers the dynamic of internal contradiction, which begs for the psychoanalytic management of a hidden cause. The death dynamic of the Beast, in contrast, does not know any contradiction, but is rather qualitatively distinguished by pure directionality and accumulated force that is the absolutely narrow path determined by the hidden cause. From the perspective of psychogenesis and its attendant putative psychopathologies, Horstmann is close to Edgar Allan Poe,⁴⁴ above all D.H. Lawrence's Poe as a suicidal prototype seeking to extinguish itself, and Horstmann therefore focuses only on the "disintegrative vibration",⁴⁵ "the breakdown of any intervening film",⁴⁶ and "the scientist dissolving salt in the crucible."⁴⁷ Self-emaciation to a zero-point is not an internal inconsistency of a psycho-organic function, but an optimal phenotype and a species-wide objective. The psychopathology of suicide is now strategic. Despite autopsies and eyewitnesses, no one knows exactly what caused Poe's death.⁴⁸ His suicidal behavioural phenotype is not a knowable error, such as the inferior phenotype of mutant strategy praxis that predictably engenders extinction. It is a martyrdom for the secret of a higher form of extinction and an exploration of its mystery. Suicide will always appear as an error to the world because it is aligned with the objective of an invisible war.

- 49. HORSTMANN, Ulrich, *Abschreckungskunst: Zur Ehrenrettung der apokalyptischen Phantasie*, München: Wilhelm Fink, 2012, p. 9.
- 50. Ibid.
- 51. HORSTMANN, *Das Untier*, p. 109.
- 52. Above all demonstrated in Horstmann's commitment to a biotic-abiotic distinction.

Thirty years after the publication of *Das Untier*, Horstmann revisits the mystery of thermonuclear overkill capacity in his 2012 *Abschreckungskunst* and, in the wake of the apparent failure of his theory, asks the question: “Why did World War III not take place?”⁴⁹ Whereas “everything had been ready” and “the most favourable conditions seemed given”⁵⁰ for cold war to become hot war, when the eradication of the biotic is not carried out even though maximum overkill capacity has been attained, an internal tension is introduced into the unidirectionality of the dynamic, which jeopardises its entire teleological form. As a result, it now takes on a Freudian shape, as Horstmann draws away from seeing everything as part of the mission. A counterforce of “deterrence” is introduced, manifesting itself above all through the production of an apocalyptic art that acts as deformation and trivialisation of the objective, implying that the mission can somehow be delayed or even stopped. The Trojan Horse is abandoned, and “cosmic paranoia”⁵¹ as hyper-awareness of the trap is replaced by cognitive damage of the neurotic tic, by hesitation. Yet, according to the logic of the Trojan Horse, the apparent failure to complete the mission indicates the final snare at the end of time. Horstmann’s vision of extinction conflates strategy and solution—the strategy of thermonuclear speciation is entirely equivalent to the solution of biotic erasure. From the perspective of their separation, the degree of extinction is inadequate, equivalent only to a lower form of extinction, as though the objective could be realised so crudely. Extinction is reduced to what is immediately present,⁵² leaving an entire universe still standing. The apparent failure of the mission and the incompleteness of the lower form of extinction hide the higher form of extinction. At this point, paranoid hyper-awareness of the last Trojan Horse becomes a war machine that kills off the neurotic brain damage of the tic and its reduction of everything to the absolute immanence of surface tension. All schizophrenia is also finally left behind. Not all mental illnesses can disclose unknown war. The deepening of paranoid hyper-awareness is the refinement of the ideal phenotype. Travelling through multidimensional nebulae, the deified paranoid sees everything as a conspiracy and consequently understands that if there is an end to the conspiracy, the absolute purity needed to realise this end can only be entirely elsewhere. Paranoia as a strategy acquires knowledge of an unknown war within a known war by correctly estimating the war’s depth, which is the true location of assassinating force.



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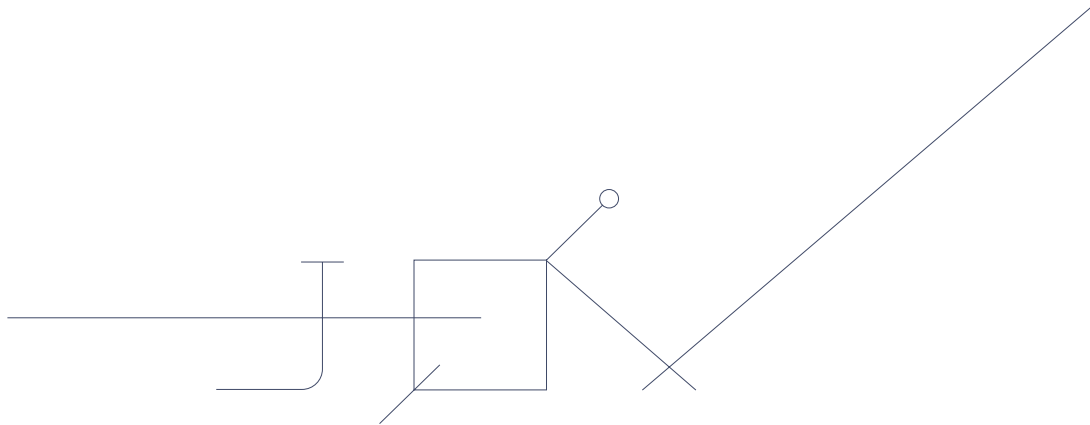




An Exegetical Incursion of the Emergent “Intelligent Battlespace”



MANABRATA GUHA



1. I emphasize on “again” because in the domain of strategic studies, strategic military transformation, while a contested subject of study, remains a critical activity. The intense interest in the so-called “revolutions in military affairs” is a prime example of this.

2. LIU, Cixin, *Death’s End*, New York: Tor Books, 2006, p. 1392 (e-version).

3. See, for example, OSBORN, Kris, “Navy Declares Laser Weapons Ready to Protect Ships in Persian Gulf”, in: *Military.com*, 12/10/2014, available at: <https://www.military.com/daily-news/2014/12/10/navy-declares-laser-weapons-ready-to-protect-ships-in-persian.html?comp=7000023468025&rank=1>.

4. The complex and often intimate relationship between Science (and Technology) and War has been a subject of keen interest and discussion. For a popular discussion on this topic, see DEGRASSE TYSON, Neil & LANG, Avis, *Accessory to War – The Unspoken Alliance Between Astrophysics and the Military*, New York: W.W. Norton & Co., 2018. See also BOOT, Max, *War Made New: Technology, Warfare, and the Course of History, 1500 to Today*, New York: Gotham Books, 2006; MCNEILL, William H., *The Pursuit of Power: Technology, Armed Force, and Society since A.D. 1000*, Chicago: Univ. of Chicago Press, 1982, among others.

5. ANDRADE, Tonio, *The Gunpowder Age: China, Military Innovation, and the Rise of the West in World History*, Princeton University Press, 2016.

There remains no more time for reflection. No time to strategize. No time to plan an operation. The need for solutions or, more precisely, outcomes is in the here and the now. *Bajito y suavequito* is out—at least in war. This is not to say that speed has never been at a premium in war. The race to get the better of an adversary—strategically, operationally and cognitively—has been and continues to be a key indicator of military proficiency. But today, things are different. At least in the context of warfare, what we are witnessing is the veritable collapse of time, and this brings in its wake the need to overhaul (yet again!) how we think about war and, more importantly, how to wage war.¹

While Cixin Liu, in the *Death's End*, speculated that “every law of physics has been weaponized”,² for us, segueing into the second decade of the 21st century, the matter seems less speculative and more about the degree to which this is becoming a reality. Take, for example, Marko Peljhan's exhibit. Among other things, it represents—even if as an “exit strategy”—the weaponization of the physics of sound. Or, consider the AN/SEQ-3/ XN-1 LaWS, a “directed-energy weapon”, which has been installed on the USS Ponce and has been in service since 2014.³ This weapon-system represents the weaponization of the physics of light. In other words, it is not excessively speculative to say that not only are we well on our way to weaponize every law of physics, but also that of mathematics, biology, and chemistry.⁴ The last, of course, was very likely the first science to have been consciously and actively weaponized. After all, since at least 1000 AD, gunpowder has been used in warfare.⁵ But the depth and extent of the weaponization currently at play runs deeper than what we can imagine, which compels us to rethink how and in what ways the human, weapons and tactics are being reconfigured, and to what end.

6. It is a matter of speculation, however, which we will return to below, for it invokes a specific notion of "speculation".
7. LIANG, Qiao & XIANGSUI, Wang, *Unrestricted Warfare: Assumptions on War and Tactics in the Age of Globalization*, Beijing: Peoples Liberation Army Arts Publishers, Feb. 1999, p. 12, emphasis by the author.
8. Ibid.
9. Ibid., p. 19.
10. BUCKINGHAM Jr., William A., *Operation Ranch Hand: The Air Force and Herbicides in Southeast Asia 1961-1971*, Office of Air Force History, Washington, DC: United States Air Force, 1982, available at: <https://media.defense.gov/2010/Sep/28/2001329797/-1/-1/0/AFD-100928-054.pdf>; YOUNG, Alvin L., *The History, Use, Disposition and Environmental Fate of Agent Orange*, New York: Springer, 2009, available at <https://rd.springer.com/content/pdf/bfm%3A978-0-387-87486-9%2F1.pdf>.

This is not sensationalism.⁶ Nor is it a matter only of interest to sci-fi aficionados or fantasists. Rather, it is a serious matter—serious enough for two Chinese military officers in 1999 to reflect on how “[w]ar in the age of technological integration and globalization has eliminated *the right of weapons to label war* and, with regard to the new starting point, has *realigned the relationship of weapons to war*.”⁷ Indeed, as they go on to point out, “the appearance of new concepts, *and particularly new concept of weapons*, has gradually blurred the face of war.”⁸ The two Chinese officers discussed these and related topics under the rubric of “unrestricted warfare”, which is grounded on the perhaps not unfounded perception that the world-as-such is weaponizable. Our interest in their discussion, however, lies in one particular assertion that they make, namely that the human, weapons and tactical mix is undergoing a transformation due to a change from “fighting the fight that fits one’s weapons” to “making the weapons to fit the fight.”⁹ In the context of military affairs, this is important, for it signals a transformation—strategic, operational, tactical and, one dares to say, cognitive—in the context of weapons technology design which, in and of itself, is indicative of a profound change in the human, weapon, tactical mix. It also leads to the posing of a critical question for the military, but also for violent non-military agents—who eventually may or may not be human—namely what kind of fight can be imagined and, consequently, what kind of weapons can be designed to fight that fight?

But before the question regarding “what kind of fight” can be addressed, it is necessary to pay attention to the emergent battlespace wherein such “fights” can be imagined. While in the past, it was not problematic to define the “physical battlespace” in terms of geography, the human element and the machines of war, today we are much less sanguine about such certainties for, if we recall what the Chinese military theorists that we referred to above noted, the world-as-such is weaponizable. What precisely can this mean? If we mean, as the Chinese theorists do, that the world construed as nature—involving climate, vegetation, physical geography, the hydrosphere etc.—can be weaponized, then that does not break any new ground. We have already seen how the US strategic military establishment—using the infamous Agent Orange—conducted Operation Ranch Hand during which they waged a form of “herbicidal warfare” to destroy the foliage of the dense jungles in specific sectors in the Vietnamese theatre of operations.¹⁰ We have also witnessed

11. *The Pentagon Papers*, Gravel Edition, Volume 4, Chapter 2, "U.S. Ground Strategy and Force Deployments, 1965-1968", Boston: Beacon Press, 1971, pp. 277-604; see also HERSH, Seymour M., "Rainmaking Is Used As Weapon by U.S.", in: *The New York Times*, 03/07/1972, available at: <https://www.nytimes.com/1972/07/03/archives/rainmaking-is-used-as-weapon-by-us-cloudseeding-in-indochina-is.html?sq=rainmaking+vietnam&scp=4&st=p>.
12. See, for example, KELLMERIT, Daniel & OBODOVSKI, Daniel, *The Silent Intelligence: The Internet of Things*, DND Ventures, PLC, 2013; MATTERN, Friedemann & FLOERKEMEIER, Christian, "From the Internet of Computers to the Internet of Things" (updated translation of "Vom Internet der Computer zum Internet der Dinge"), in: *Informatik-Spektrum*, 33(2), Distributed Systems Group, Institute for Pervasive Computing, ETH Zurich, 2012, pp. 107-121; See also AARTS, E., HARWIG, R., SCHUURMANS, M., "Ambient Intelligence", in: DENNING, Peter J. (ed.), *The Invisible Future: The Seamless Integration of Technology Into Everyday Life*, New York: McGraw Hill, 2002. Aarts et al. specifically draw attention to the emergence of what they refer to as "ambient intelligence" in the context of the "internet of (every) thing".
13. WEISER, Mark, "The Computer for the 21st Century", in: *Scientific American Special Issue on Communications, Computers, and Networks*, September 1991. Weiser's third draft version is available at: <http://www.ubiq.com/hypertext/weiser/SciAmDraft3.html>.
14. Ibid.
15. A similar argument, albeit in a different context, is made by Jennifer Gabrys in her excellent *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet* (Minneapolis: Univ. of Minnesota Press, 2016, p. 4). It is also worth pointing out that I share Gabrys' understanding of "computation to include computationally enabled sensors ... [i]n other words ... to the extended scope of computation". This is as applicable to her project as it is to the "intelligent battlespace" that I attempt to draw attention to.

16. One possible reason for this unreflective attitude is that there is a consistent resistance to the implications of "ubiquitous computing". Additionally, it is also an indicator of the sapping of what I refer to as "tactical imagination". In this connection, it is interesting to note an initiative that has been undertaken by the US military. Specifically, within the US Marine Corps, it was deemed necessary to engage in "futures forecasting" by taking recourse to "science fiction". The objective of the Warfighting Laboratory/Futures Directorate is to engage in continual examination of the deep future. This is one instance—and a rare one—which aims to expand, or at least animate, the growingly moribund "tactical imagination". See <https://www.mcwl.marines.mil/Portals/34/Documents/FuturesAssessment/Marine%20Corps%20Science%20Fiction%20Futures%202016%2012%209.pdf?ver=2016-12-09-105855-733>. See also <https://www.military.com/daily-news/2016/02/14/top-marine-looks-to-science-fiction-to-prepare-corps-for-future.html>.
17. This project, at least in the context of the US Armed Forces, has seen multiple revisions over the years in terms of focus and terminology. Over time, this program to "enhance" the soldier has been labelled as Net Warrior (2011), Land Warrior (2007) and Future Warrior (2004).

the conduct of what was known as Operation Popeye—a chemical weather modification effort—between 1967 and 1972 to prolong and intensify the monsoon season over the Ho Chi Minh Trail in a bid to adversely impact North Vietnamese military operations.¹¹ And, if we include the Human, then we have seen its weaponization too in the form of the “suicide bomber”. But now, in the 21st century, the notion of the weaponization of the world-as-such is assuming a radically different meaning.

To better grasp the implications of the weaponization of the world-as-such, it is necessary to understand it in the context of what we may refer to as the “intelligent battlespace”, which is inspired by and derived, in part, from the development of the so-called “internet of every thing”.¹² In brief, the “internet of every thing” is underwritten by the logic of Moore’s Law, and benefits from advances that are being made in energy management in addition to the rapid miniaturization that electronic devices are undergoing. Thus, as the per-unit-cost of components falls rapidly, electronic devices are being increasingly liberated from the need to be hardwired with each other as a precondition for them to be able to communicate between themselves. They are also being either appended to or designed into the world-as-such. As a consequence, as Mark Weiser put it: “The most profound technologies are those that [are] disappear[ing]. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”¹³ Thus, as Manuel Castell’s notion of “network societies” achieves traction and manifests itself as “smart cities”, the “internet of every thing” is gradually ensuring that machines are indeed making “computing an integral, invisible part of the way people live their lives.”¹⁴ They are, in effect, becoming a co-constituent of the world-as-such.¹⁵

In the military sphere, this transition—even if not seriously reflected upon—is even more intense and it is already difficult to make distinctions between, for example, the computational and non-computational with definitive clarity, particularly where decision-making is concerned, which is often, in the case of warfare, a matter of life and death.¹⁶ In fact, in the military context, this trend is intensifying to the point where even “the soldier”—that last bastion of anthropic fantasy in the context of war and battle—is being increasingly rendered in digital and informational terms.¹⁷ Take, for example, what Bruce Sterling reported over a decade ago:

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18. STERLING, Bruce, "War is Virtual Hell", in: *Wired Magazine*, Issue 1.01, March-April 1993, available at: <http://www.wired.com/wired/archive/1.01/virthe11 pr.html>.
19. DYSON, George, "The Third Law", in: BROCKMAN, John (ed.), *Possible Minds: Twenty-five Ways of Looking at AI*, New York: Penguin, 2019.

The First Company of the 12th Armored Cavalry Regiment prepared for ... battle ... [A]t the Combined Arms and Tactical Training Center (CATTC) in Fort Knox, KY, the troops prepared to enter SIMNET—a virtual war delivered via network links. With the almost Disney-like mimicry typical of SIMNET operations, the warriors were briefed in an actual field command-post ... The attacking enemy would advance from west ... But the exact enemy tactics were obscured by the fog of war ... Bravo Platoon was the first to spot the approaching enemy scouts ... Bravo Platoon saw red and yellow impacts spike their hillside landscape, and a vicious crump of high explosives burst from the Perceptronics audio simulators. As the engagement proceeded, dead men began to show up in the CATTC video classroom. Inside the simulators, their vision blocks had gone suddenly blank with the onset of virtual death. Here in CATTC's virtual Valhalla, however, a large Electrohome video display unit showed a comprehensive overhead map of the entire battlefield ... [T]he dead tank crews filed into the classroom and gazed upon the battlefield from a heavenly perspective. They began to talk. They weren't talking about pixels, polygons, baud-rates, Ethernet lines, or network architecture. They were talking exclusively about fields of fire, and fall-back positions, and radio traffic and indirect artillery strikes. They weren't discussing "virtual reality" or anything akin to it. These soldiers were talking war.¹⁸

It is worth re-emphasizing Sterling's last two sentences: "They weren't discussing 'virtual reality' or anything akin to it. These soldiers were talking war." In other words, to the soldiers the technology that made this "virtual Valhalla" possible, which included the representation of themselves, had already receded, like Weiser had postulated, into the background.

While these developments are dazzling us with the technological virtuosity at work, they are also obscuring a more critical development, which is particularly relevant in the context of the "intelligent battlespace". In a provocative essay, George Dyson draws our attention to an emergent state of affairs that arguably transcends the current concerns about "artificial intelligence".¹⁹ In brief, Dyson argues that the real issue at stake is not necessarily the prospect of digital computation eventually running rampant and subjecting the Human to its dictates; rather, he urges us to pay attention to the insidious nature of what he calls "analogue computation",

20. Ibid., p. 55.

21. This is not to suggest that questions of “ethics” and “morals” are not important in the context of the digital battlespace and in the increasing use of autonomous weapon systems. For a cogent account of the implications of digital computation in the context of war, see, for example, GALLIOTT, Jai, *Military Robots: Mapping the Moral Landscape*, London: Routledge, 2017.

22. SIMONDON, Gilbert, *On the Mode of Existence of Technical Objects*, Paris: Aubier, Editions Montaigne, 1958, trans. by Ninian Mellamphy, Preface by John Hart, London, ON: Univ. of Western Ontario, June 1980, pp 48–49. It is necessary to highlight that here I am appropriating Simondon’s term technogeography and not suggesting that his use of the term was anything akin to how I have used it in this essay.

23. Note here that the question regarding “the intent of the target” would have been resolved before a targeting action is initiated. In other words, it would have been (ideally, but not always) ascertained that an entity has a hostile intent prior to its being designated as a “target”.

whose default tendency is to generate “control systems”. Nevertheless, while pointing out that there is no “precise distinction between analogue and digital computing”, Dyson suggests that, generally speaking, “digital computing deals with integers, binary sequences, deterministic logic, and time that is idealized into discrete increments, whereas analogue computing deals with real numbers, nondeterministic logic, and continuous functions, including time as it exists as a continuum in the real world.”²⁰ In the context of warfare, “control” is a major concern—thus the emphasis on “command and control”. Yet, the “control” that Dyson is referring to may be a kind of a “meta-control” paradigm, within which the strategic-military command and control system is subsumed. This state of affairs is, as of now, dimly recognized by us, and our current focus remains transfixed by an AI paradigm in which we assume digital computation, which has and continues to proliferate like a virus gone mad; it is both a panacea to our problems and a source for new ones.²¹

In the context of warfare in the 21st century, particularly where the question of what “kind of fight” is possible is concerned, these considerations are important. This is because the fundamental challenge that this emergent “intelligent battlespace” poses—unlike that posed by “intelligent machines”—is not whether it “respects” the dignity of the Human; rather, it is its propensity to reduce the Human into data-sets which serve as its source of nourishment. With the caveat that what precisely we mean by “intelligent” remains murky as of now, it is important to note that this emergent battlespace is not simply the admixture of physical geography and “intelligent machines”; rather, it is, to use Simondon’s term, a “technogeography”, which is gradually acquiring an awareness of itself.²² And while this “intelligent battlespace” is indeed materialized by digital computation, its operative logic is underwritten by, as Dyson insightfully points out, the “control paradigm” of analogue computation which, for the most part, remains hidden from view.

One way to understand the import of this emergent “control paradigm” would be to consider the case of “targeting”. Targeting—notionally, at any range—is a matter of determining coordinates, principally geographical, of an object of interest.²³ But there are other coordinates that matter too—often critically. Thus, for example, a “target” emits “information” about itself, which can be in the form of thermal, electromagnetic and other kinds of signatures.

24. LIBICKI, Martin C., *The Mesh and the Net: Speculations on Armed Conflict in a Time of Free Silicon*, McNair Paper 28, Institute for National Strategic Studies, Washington, DC: National Defence Univ., 1994, p. 23.

25. Such nascent efforts are already underway though they appear more in the context of the emergence of the surveillance state. However, considering that the expanded battlespace makes no distinction between the "civilian" and the "military", to that extent these nascent efforts may be considered to be emergent instantiations of the "intelligent battlespace". See, for example, BOTSMAN, Rachel, "Big data meets Big Brother as China moves to rate its citizens", in: *Wired*, 21/10/2017, available at: <https://www.wired.co.uk/article/chinese-government-social-credit-score-privacy-invasion>.

26. The IFF (Identification Friend/Foe) systems installed in combat aircraft are rudimentary examples of this. It should be noted that despite the name, such systems, which have both military and civilian applications, only identify "friends". This identification is done by registering the transponder signals that aircraft emit. The IFF system falls under a more comprehensive Combat Identification System (CID), which is "the process of attaining an accurate characterization of detected objects in the operational environment sufficient to support an engagement decision." See "Joint Fire Support", in: *Joint Publication 3-09*, 30/06/2010, Office of the Joint Chiefs of Staff, US Department of Defence.

27. It may be argued that this is analogous to the "immune system" of an organism. But this is not so since an immune system aims to maintain the somatic integrity of the organism by neutralizing "the threat". In the case of the "intelligent battlespace" as described and discussed here, the strategic aim of the assessment is not to make itself "immune" to a threat. Rather, it is to "accommodate" the threat as a means to become more "resilient".

These “signatures”, which radiate from an object, allow for its identification and “locking” thereby enabling it to be tracked and, if necessary, interdicted. Note, however, that this process of targeting occurs within a “grid of intelligibility” that presumes a “technogeographical” substrate, that is to say a computational backdrop over and against which targets are, in at least two senses of the word, “fixed”. Such considerations have led military theorists like Martin Libicki to observe that “even with stealth, everything ultimately can be found ... [and] how sensors of certain minimum discrimination placed close enough together can, at some epsilon, catch anything.”²⁴ Also notice that as the process by which a “target” is being identified, located and “fixed” is under way, the computational backdrop which facilitates this process recedes into the background, thereby validating, at least to some extent, Weiser’s contention about the most profound technologies receding into the background. But there are also other kinds of signatures that some targets exhibit. These involve biological (prospectively, neurological) and behavioural signatures—principally, of human targets—which are now increasingly registered and tracked digitally.²⁵

One constant theme of this “technogeography” on and within which targets roam is the propensity of the technological substrate to not simply engage in “pattern recognition”, but also to create “patterns of behaviour” or, alternatively, parameters of “acceptable behaviour”, which are deemed indicative of being threatening or non-threatening, which contribute to assessments of whether an entity is a “friend or an enemy”.²⁶ In the context of the emergent “intelligent battlespace”, a “threat” is any activity and/or presence of an agent or element or even tendency that can undermine the integrity of the mesh of networks that constitute the “intelligent battlespace”. The notion of “threat” is central to the “intelligent battlespace” for, arguably, one way to construe its “intelligence” and sense of “awareness” may be in terms of the fluid and ongoing assessment that it makes of itself in terms of its somatic coherence and integrity which, it should be noted, is constantly in a state of strategic expansion and tactical contraction.²⁷ In this way, the “intelligent battlespace”, by constantly enhancing its “awareness”, may be said to be operationalizing a “control paradigm” whose “ideal” objective is to maintain and optimise its somatic integrity by managing adversarial elements that may undermine it. One important consequence of this, which is of relevance to us, is that “tactical

28. This resonates with the observation made by the Chinese military theorists that "the evolution of weapons ... has a decisive constraining effect on the evolution of tactics." See LIANG & XIANGSUI, *Unrestricted Warfare*, p. 19.

29. This is not a "new" claim; nor is it a matter that has not been observed and/or theorized upon in the past. These discussions have taken place, generally, under the rubric of "the surveillance state/society". What is new, however, is the overt weaponization that is currently underwriting this state of affairs. For insightful accounts of the emergent surveillance systems at various degrees of granularity see, for example, ZUBOFF, Shoshana, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, New York: Public Affairs, Jan. 2019; HARRIS, Shane, *The Watchers: The Rise of America's Surveillance State*, London: Penguin Books, 2010; LYON, David, *The Electronic Eye: The Rise of Surveillance Society*, Minneapolis: Univ. of Minnesota Press, 1994, among others.

30. The reference to the "accidental guerrilla" is taken from David Kilcullen's *The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One* (Oxford: Oxford Univ. Press, 2011). It should be noted that Kilcullen is, in some quarters, considered to be "a ground-breaking theorist whose ideas 'are revolutionizing military thinking throughout the west'" (as reported in *The Washington Post*, 22/03/2009). Of course, now, in 2019, with insurgencies continuing unabated, one wonders what ground was indeed broken in the conduct of COIN wars and what the concomitant impact has been in terms of "revolutionizing military thinking throughout the west"!

31. NEGARESTANI, Reza, "The Militarization of Peace: Absence of Terror or the Terror of Absence", in: MACKAY, Robin (ed.), *Collapse I*, Oxford: Urbanomic, 2007, pp. 54–55.

imagination”—both as an attribute and as a capability—is increasingly subjected to the direct and indirect control exercised by the “intelligent battlespace”.²⁸ As a pertinent aside, it could thus be said that this characteristic of the “intelligent battlespace” is indicative of its instituting an “organizing principle” as opposed to affirming and/or underwriting a “principle of organization”, which enables it to increasingly evade any external forms of control and direction, thereby acquiring a growing degree of autonomy.²⁹

Given this, the task of imagining “new ways to fight” appears to pose a seemingly insurmountable challenge. This is because, given the gradual instantiation of the “intelligent battlespace”, our understanding of an Adversary—both as a Soldier and as the “accidental” (or deliberate) guerrilla/insurgent—is being rendered passé.³⁰ While these “traditional” forms of the Adversary may continue to inflict damage—some of which may be on a large scale and rate high on the lethality index—in the context of the “intelligent battlespace” and the “control paradigm” that it operationalizes, they nevertheless represent elements that can be managed and, when necessary, interdicted.

Take, for example, Reza Negarestani’s account of what he refers to as “the shadow terrorist” which, by most standards, is a frightening description of the performativity of a “new” kind of “terrorist”. In his insightful essay titled “The Militarization of Peace”, Negarestani engages with the incendiary proclamations of Abdu-Salam Faraj and draws our attention to the tactical dexterity involved in what he refers to as “the new wave of terrorism” in which “tactical lines are not aligned with (or configured by) the plane of conflict and visible military friction (battlefields, terrains for guerrilla warfare, street-wars etc.) ... [and which] do not have localizability which is a prerequisite for direct conflict and military formation.”³¹ Negarestani highlights the tactical benefits of “strategic (dis)simulation” that the “shadow terrorist” draws on, which involves “dismantling the theatrical aspect of the battlefield and selecting civilians as primary targets ... [and which] makes survival itself a field of exploitation.” Negarestani informs us that invoking the tactics of Taqiya, the Takfiri “engages as a shadow terrorist in White War—the endo-militarization of peace, a state of hypercamouflage (best defined as complete and consequently symmetrical overlap between two

— 32. NEGARESTANI, "The Militarization of Peace",
p. 55.
33. Ibid., pp. 61-62.
34. The instantaneity of response is an instance of
the weaponization of hypersonics.

entities on a mereotopological plane).” He further posits that “in this war, the cover of camouflage cannot be penetrated or disrupted, and the defensive camouflage ... is replaced by a wholly novel, highly offensive deployment, the space of hypercamouflage.”³² For our purposes, it is necessary to ask: can such an adversary, at least in the way Negarestani describes him, survive in the context of the emergent “intelligent battlespace”?

Negarestani’s key insight is that a “shadow terrorist”, the Takfiri, engages in strategic (dis)simulation, which involves the consideration of the target’s body as a host and to burrow deep within it, not as a “foreign” agent, but by masquerading as an integral element of the body, thereby avoiding detection. But consider this “tactic” in the context of the emergent targeting paradigm that we referred to above. The Takfiri’s strategic cover, in a manner of speaking, is to effect an absolute and total overlap with its target. While this may have worked in non-intelligent battlespaces where the “control paradigm” was still a conjecture, in current and emergent conditions, the Takfiri would have to either redefine the tactic of hypercamouflage or consider it being rendered ineffective and thus irrelevant. In other words, it is not simply enough for the Takfiri to engage in “deep deception” or, as Negarestani points out, in Faraj’s terms, “seeking the highest degree of participation with the infidels, with their civilians: ‘if they take drugs we must do the same, if they take part in every type of sexual activity we must drive those activities to the point of excess’.”³³ It is also not sufficient for the Takfiri to avoid engaging with(in) recognized “planes of conflict” and sites of military friction. This is because the emergent “intelligent battlespace”, while accommodating such overlaps engaged in by the Takfiri, also—by twisting the “recognized planes of conflict” into a seemingly seamless continuum, which has no apparent beginning, middle or end—serves as a virtual prison from which the Takfiri would never be able to either escape or act again. Thus, while the Takfiri may be able to effect a strategic (dis)simulation operation by “militarizing peace”, his strategic objective of undermining the integrity of his target by a timely dissimulation would be impossible given that any violation of the “control paradigm” would invite instant identification and retribution.³⁴ It would also, perversely, heighten the efficiency of the “intelligent battlespace” since the Takfiri would, by his (dis)simulation operations, provide it with an additional dataset which would

- 35. "Hypersonic missiles: Speed is the new stealth", in: *The Economist*, Technology Quarterly (Print Edition), 01/06/2013.
- 36. Note that the "hypersonic missiles"—even if they are of the "fire and forget" varieties—that the Economist refers to have to fly along a "trajectory". This trajectory is always precalculated and tracked by a variety of radar systems. In this way, the missile remains tied to a "grid of intelligibility".
- 37. It is necessary to be wary of needlessly anthropomorphizing this notion of "an organism".
- 38. Concordance here refers to an "equivalence relation" between two links (link-concordance). In mathematics, concordance is a foundational mechanism that underwrites the sign "=" ("equal to"), which is an example of an "equivalence relation".

only augment the “intelligence” of the “intelligent battlespace”. In this way, the “intelligent battlespace”, constituted by “the most profound technologies”, and which is increasingly standing-in as the world-as-such, represents a degree of weaponization (and securitization) which is, and may be projected to be, unparalleled.

As if wanting to put a hi-tech and “modern” twist to the tactics of the Takfiri, the Economist breathlessly proclaims that “hypersonics” is “the new form of stealth”.³⁵ But all it does is to exhibit a profound misunderstanding of the critical issue at stake. For, as we have seen, in the context of the emergent “intelligent battlespace”, “speed” is no guarantor of “stealth”; rather, it is, ironically, representative of the instantaneity of retribution—an instance of reaping the benefits of the weaponization of speed—which is wholly dependent on the “grid of intelligibility” that the “intelligent battlespace” etches.³⁶ This virtual collapse of time and the weaponization of the laws of the sciences which, in the context of high-intensity warfare involving nation-states, involves the use of hypersonic missiles to break down Anti-Missile defensive systems and which, in the context of low-intensity, counter-insurgency and counter-terror operations, is the harbinger of “instant death” from the skies, also renders the insidiousness of a sophisticated adversary like the Takfiri, or the shadow terrorist, ineffective.

For an Adversary intending to contend with the emergent “intelligent battlespace”, following the age-old adage of “knowing one’s adversary” remains crucial. But this “knowing” will have to be undertaken differently and, in the first instance, will require the fulfilment of at least two basic pre-requisites. First, a re-envisioning of the “intelligent battlespace” will be necessary. This will involve recognizing the “intelligent battlespace” not as an innovative organization of people, processes, technologies and forms of organizations, but as a “new” form of organism—one that is adept at shape-shifting (effecting strategic expansions and tactical withdrawals).³⁷ Second, and perhaps more importantly, it will require a patient and intricate reworking of the alphanumeric concordances, which underwrite and sustain the logic systems that constitute the “intelligent battlespace”.³⁸ Among other things, this will also involve paying close attention to how it “learns”.

— 39. ZADOR, Anthony M., "A Critique of Pure Learning: What Artificial Neural Networks can Learn from Animal Brains", in: *bioRxiv*, 20/03/2019, p. 2.

40. There is nothing esoteric about this, for it approximates the operational logic of the "internet of every thing".

41. It may appear to be a contradiction to speak of "innate-ness" and "learning" in the same breath. This is because "innateness", by definition, means some quality or attribute or ability "which you are born with, or which is present naturally." (Cambridge English Dictionary: <https://dictionary.cambridge.org/dictionary/english/innate>) I am using this admittedly contradictory term to gesture to the "process" that takes place by means of which these qualities, attributes, behaviours etc. have "become natural", which I refer to as "learning". This "learning", when considered in evolutionary terms, may at one time have been "active", but over time it has become "encoded" within the structure and organization of the entity concerned and, in this way, appears "natural". In this connection, it is also important to point out that the word "knowledge" may seem to be a more appropriate term to use—thus, "innate knowledge" and "actively learned knowledge". However, the aim of the Adversary, as we will see, would not be to launch offensive operations against a "body of knowledge"—innate or actively learnt; rather, the offensive would be launched against the process (i.e., the process of learning) by which knowledge is produced.

While it is not possible within the current constraints to provide a detailed account of how these twin prerequisites may be fulfilled, what follows, however, is a brief account of how an assessment of the “intelligent battlespace” may be initiated. With the caveat that such an account will, at this stage, be brief, speculative and necessarily abstract, a viable starting point for an Adversary preparing to contend with the “intelligent battlespace” would involve recognizing that the process by which it “learns” has at least two distinguishing features. First, “learning” in the context of the “intelligent battlespace” takes place across differing timescales, and second, there are at least two kinds of “learning” that take place. Here “learning” refers to “the process of extracting structure—statistical regularities—from input data and encoding that structure into the parameters of the network.”³⁹ If we think of the “intelligent battlespace” as being comprised of two layers—the digital computational and the analogue computational—then the “learning” that takes place at the digital computational level can be said to be “experiential”, which is attributable to the fact that the digital computational level is, among other things, primarily constituted by a plethora of sensors which interface not only with what lies outside it, but also between its own constituents.⁴⁰ In this sense, the digital computation level serves as the “interactive” mechanism with which the “intelligent battlespace”, in a manner of speaking, animates itself. From this it follows that the “learning” that takes place at this level occurs along and across a much shorter timescale as compared to that which takes place at the analogue computational level where, on the other hand, the timescales involved are much longer and are, perhaps, best understood in evolutionary terms. As such, it is akin to a “learning substrate”, whose primary function is to enhance, but also direct the learning capabilities of the digital computational level that rides on it. One way to understand this is to consider it in terms of “active learning” and “innate learning” systems.⁴¹ “Active learning” is “learning by experience”. “Innate learning”, on the other hand, is “intrinsic”/“natural”/“unsupervised”. Thus, if the digital computational level is the site where “active learning” takes place, then the analogue computational level is the site where “innate learning” takes place. The question then arises: how does “innate learning” at the analogue computational level take place? While in the case of biological entities, “innateness” (of learning and knowledge) is a function of specific encodings within

— 42. ZADOR, "A Critique of Pure Learning: What Artificial Neural Networks can Learn from Animal Brains", p. 7.

the genome as a consequence of evolution, in the case of the analogue computational level, “innate learning” may be understood as the forming of *abstract* statistical regularities drawn from vast quantities of input data over extended timeframes. It is important to note that these abstract statistical regularities contribute to the evolution of the architecture of the analogue computational level. When considered in this way, the digital computational and the analogue computational levels appear to share a symbiotic relationship in the sense that the abstract statistical regularities that are formed at the level of analogue computation are derived from the “experience” acquired by and at the digital computational level. Simultaneously, these abstract statistical regularities, which inform the architecture of the abstract computational level, in turn, “condition” how the digital computational level functions. In this way, the analogue computational level “conditions” and “reinforces” the “learning” that takes place at the digital computational level. Put differently, it could be said that analogue computational level does not “encode representations or behaviours ... or optimization principles directly”; rather, it “encodes ... rules and patterns, which then must instantiate behaviours and representations” at the digital computational level.⁴² In this connection, it is also worth pointing out that the constitution of the digital computational level, which is comprised of a plethora of sensors, undergoes a more rapid transformation as compared to any change that may occur at the analogue computational level. This is because the devices that constitute the digital computational level are more directly impacted by the effects of Moore’s Law and, consequently, are upgraded more frequently. However, as they are upgraded and as their performance achieves higher levels of efficiency and increasingly finer resolutions, they remain subject to the “reinforcement” that the analogue computational level provides.

This brief overview of how the “intelligent battlespace” “learns”, which contributes to the progressive enhancement of its “intelligence” (and “awareness”), suggests that for the Adversary, perhaps the most remunerative but long-range target that the “intelligent battlespace” affords is at the analogue computational level. There are two reasons for this. First, as we have seen, the learning process at the analogue computational level is more drawn out and the degree of abstraction is very high. Second, in comparison to the digital computational level, the

43. As Deleuze and Guattari, referring to a "splendid text by Elie Faure ... [in which] the infernal progress of the itinerant peoples of India" is evoked, observe: "Transpierce the mountains instead of scaling them." (DELEUZE, Gilles & GUATTARI, Félix, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. and Foreword by Brian Massumi, Minneapolis: Univ. of Minnesota Press, 2005, p. 413) For an account of how the "principle of decay" works, see NEGARESTANI, Reza, *The Corpse Bride: Thinking with Nigredo*, Collapse Volume IV: Concept Horror, Urbanomic, 2008. Whether Negarestani's account applies in the context of the "intelligent battlespace" remains to be investigated.

44. The term "holey space" is drawn from the work of Deleuze and Guattari (see their *A Thousand Plateaus: Capitalism and Schizophrenia*, pp. 413, 500). As Hélène Frichot describes it, "holey space is not properly volumetric, nor surface-like, nor linear, but always on the way to becoming one state or another. It can thus be called 'metamorphological'. As such, holey space registers the demand for a creative practice of 'hollowing out' regions of escape. Holey space is not as absolute as smooth space, and offers instead the possibility of temporary respite: a 'tent', 'holiday home', 'gîte', or 'shelter'." See FRICHOT, Hélène, "Holey Space and the Smooth and Striated Body of the Refugee", in: HICKEY-MOODY, Anna & MALINS, Peta (eds.), *Deleuzian Encounters Studies in Contemporary Social Issues*, London: Palgrave MacMillan, 2007, p. 175. In our context, "holey space" is a space of complexity, ambiguity, hybridity, contradiction and otherness which interfaces with the analogue computational level on one side and the digital computational level on the other.

45. The Gorgon Stare "is a revolutionary airborne surveillance system ... which will be able to transmit live video images of physical movement across an entire town. The system, made up of nine video cameras mounted on a remotely piloted aircraft, can transmit live images to soldiers on the ground or to analysts tracking enemy movements. It can send up to 65 different images to different users ... Maj. Gen. James O. Poss, the Air Force's assistant deputy chief of staff for intelligence, surveillance and reconnaissance ... [is reported as saying] 'Gorgon Stare will be looking at a whole city, so there will be no way for the adversary to know what we're looking at, and we can see everything.'" See NAKASHIMA, Ellen & WHITLOCK, Craig, "With Air Force's Gorgon Drone 'we can see everything'", in: *The Washington Post*, 02/01/2011, available at: http://www.washingtonpost.com/wp-dyn/content/article/2011/01/01/AR2011010102690_pf.html. While my use of the term here is not meant to invoke the specific platform, my intent, however, is to invoke the operational principle of an omnisensorial capability.

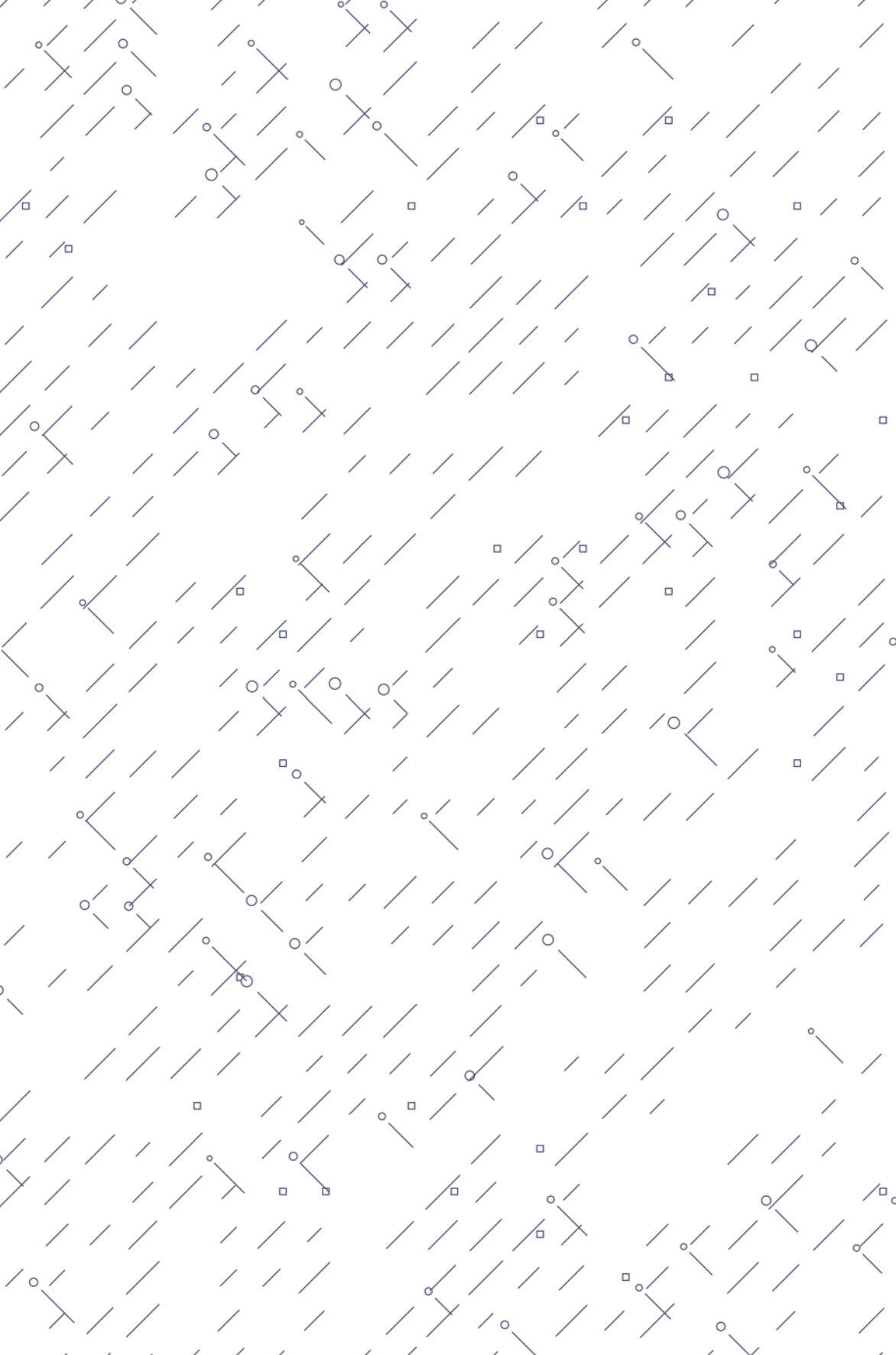
“learning” that occurs at the analogue computational level is more foundational in the sense that it co-constitutes not only the architecture of the analogue computational level, it also encodes the rules and patterns by which the representations and/or behaviours at the digital computational level take place. Thus, any interdiction at this level will have, albeit slowly/gradually, a cascading effect on the nature of the “intelligent battlespace”. In this sense, the nature of offensive operations that the Adversary will engage in will necessarily have to be “effects-based” where the “effect” would not be in the form of “spectacular” events, but one of gradual decay. This leads to the assessment that while on the one hand the concept of operations that may prospectively underwrite the martial operability of the Adversary will be one informed by the “principle of decay” rather than that of destruction, the tactical manoeuvre that the Adversary will adopt, unlike that of the Takfiri’s tactic of hypercamouflage, will be one of “transpiercement”.⁴³ To be able to achieve this, however, the Adversary will have to seek “staging areas” which, in the context of the constitution of the “intelligent battlespace” that we have cursorily described above, can only be available where the digital computational and analogue computational levels overlay (and abut) each other. Here the Adversary will seek (and find) interstices–holey spaces–within which to reside temporarily and to plan and stage his offensive operations.⁴⁴ Such spaces, marked by complexity, ambiguity, hybridity, contradiction and otherness, will afford the Adversary a space of respite, sheltering him from the “gorgon stare” of each of the computational levels, thereby affording him the cover required to plot and plan his intervention.⁴⁵ They will also serve as portals through which he will be able to carry out his offensive operations.


*ENDNOTE TO THE EXEGETICAL INCURSION
OF THE “INTELLIGENT BATTLESPACE”:*

The “intelligent battlespace” is yet in a formative stage. One way to gauge the extent to which it has been instantiated is by closely following the development of the “internet of every thing”. The radically insidious nature of this emergent battlespace ensures that our recognition of it is always going to be subverted by the apparent ease and functionality that it provides, principally by means of the digital computational level, which we see being manifested by “consumer” technologies like smart phones, GPS-enabled devices, augmented reality systems, among others, which have already become a part of, in Michel de Certeau’s terms, the practice of our everyday life. These technologies and devices, as Weiser had written in 1991, have not yet receded wholly into the background. But they are in the process of doing so. We “consume” them not recognizing that simultaneously we are also being consumed by them. The apparent benign-ness of these technologies, which are little more than user-interfaces to a deeper analogue computational logic, seduces us to progressively acquiesce in our rendition—like the soldiers Sterling observed in the CATTAC—as little more than digital objects. In the military context, as we have already seen, it is now almost impossible to think about war and tactics outside the purview of these kinds of machines and technologies whose operational envelope remains constricted by the deep logic(s) of the “intelligent battlespace”.

The two Chinese military theorists who we had invoked previously had observed that “[w]ar in the age of technological integration and globalization has eliminated the right of weapons to label war and, with regard to the new starting point, has realigned the relationship of weapons to war.” When cast against the backdrop of our brief “incursion” of the “intelligent battlespace”, we can now see how their concerns, while not misplaced, may have underestimated the context in which their observations assume an even greater importance than what they may have imagined. While it is true that “technological integration” (and globalization) has indeed eliminated the right of weapons to label war, this elimination, as we have seen, may, in part, be attributable to the emergence of the “intelligent battlespace”, which is subjecting current and emergent designs of military hardware and software to its dictates. In the process, it is also impacting the “wetwares” of war, or what we have previously referred to as the “tactical imaginations”, that we seek to employ in the so-called “physical battlespace”. In this sense, the theorization of war and of modes of martial operability remains bound within the envelope of possibilities afforded by the “intelligent battlespace”, thus vindicating the concerns articulated by the two Chinese military theorists, albeit differently. Thus, while we remain cognizant of the conceptual envelope that may have restricted the imagination of the two Chinese military theorists, we cannot help but empathize with their call to focus our thinking on “how to fight”, for that is the challenge that we, in the context of the emergent “intelligent battlespace”, face.

Consequently, if we must think about war, martial operability and new concepts of weapons in the 21st century and beyond, *we have to think differently*. We must free our imagination from the “control paradigm” that the “intelligent battlespace” is instituting. It is in this sense that Marko Peljhan’s exhibit—though representing an instantiation of the weaponization of speed—is both apposite and (un)timely for it issues a call to “escape”—an escape from the embrace of the “intelligent battlespace”.



The background of the page is a complex, repeating geometric pattern. It consists of numerous short, parallel diagonal lines that create a textured, woven appearance. Interspersed within this pattern are various small, simple geometric shapes, including circles, squares, and triangles, some of which are connected by thin lines, forming a network-like structure. The overall effect is a modern, technical, and abstract design.

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Capital, War and Love



PRIMOŽ KRAŠOVEC

- 1. LAND, Nick, “Crypto-Current”, in: *Šum 10.2*, available at: <http://sumrevija.si/en/sum10-2-nick-land-crypto-current-an-introduction-to-bitcoin-and-philosophy/>.



CAPITAL IS ESSENTIALLY CAPITALS, AT WAR AMONG THEMSELVES.¹

WARLIKE SOCIAL APPROPRIATION

— 2. FOUCAULT, Michel, *Society Must be Defended*, New York: Picador, 2003, pp. 16-19.
3. ELIAS, Norbert, *The Civilising Process*, Malden: Blackwell, 2000, pp. 365-447.

Or is it? War is, regarding capital's basic mode of functioning, definitely an exciting metaphor, but not necessarily the most accurate one. It is supposed to be politics, not the economy, that is an extension of war by other means (as in Nietzsche/Foucault reversal of the famous Clausewitz formula).² The behaviour of modern political parties certainly bears more than superficial resemblance to medieval private wars between local landlords. Direct armed confrontations and the use of violence are excluded (most of the time), but this transformation of politics-as-war to politics-as-intrigue already took place in *ancien régime* of the 17th-century Europe and there is nothing particularly contemporary about it—once local landlords were disarmed and stripped of their military titles and political power became centralised, aristocracy moved to capital cities and began to practice courtly, or civilised, modes of political behaviour.³

Although all that took place long before democracy, the rule of law and the invention of the state (in contemporary meaning and practice) came along, there seems to be a continuity rather than a break in the basic relations between political parties, which is a kind of civilised war, much akin to aristocratic court politics—there are confrontations, spoils (control of the state’s budget, infrastructure and institutions), alliances, betrayals, (counter)intelligence, strategies and manoeuvres. Indeed, the main difference is that classic war takes place on and is fought for territory, while the “territory” of contemporary politics is public opinion/attitudes/feelings and voting behaviour. To put it schematically: all forms of wars/politics, from the most primitive and direct medieval ones to the most complex/mediated non-violent contemporary ones, share the same zero-sum logic, be it a zero-sum acquisition of territory (medieval), influence on the king’s decisions (*ancien régime*) or votes (contemporary democracy). Where one party (army, aristocratic dynasty) wins, another loses in the same measure. Let’s call this zero-sum mode of social relations *warlike*, after its basic and most primitive form.

Warlike forms of social appropriation were prevalent in Europe through ancient, medieval and *ancien régime* times up until the beginning of capitalism. They still are in politics, to a certain extent in love, but not in the field of the economy, where capital(ism) presents a radical historical break with previous social forms of appropriation (SFA). There is a fundamental difference between all pre-capitalist SFA (regardless of their mutual differences) on the one hand and capitalist SFA on the other. All pre-capitalist SFA are zero-sum games. In the most primitive (medieval) instances, this meant struggles for territory. Since territory constituted both a tax base and a labour base and since there was no systematic technological improvement (although interesting inventions were made in the Middle Ages, there was, as opposed to capitalist competition, no systematic pressure to invent anything), expanding one’s territory also meant expanding one’s income and output (again, as opposed to contemporary capitalist examples like Singapore or Hong Kong, where high economic performance can coincide with tiny territorial extent). In centralised monarchies of the *ancien régime*, where local aristocracy was disarmed, internal politics took on a more complex, civilised form (which nevertheless remained *warlike*), whereas external politics remained

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4. GERSTENBERGER, Heide, "The Political Economy of Capitalist Labour", in: *Viewpoint*, 2014, available at: <https://www.viewpointmag.com/2014/09/02/the-political-economy-of-capitalist-labor/>.
5. FINESCHI, Roberto, "The Four Levels of Abstraction of Marx's concept of 'Capital'", available at: http://www.marx-gesellschaft.de/Texte/1005_Fineschi_Four%20Levels_Abstraction.pdf.

straightforward territorial plunder (frequent and long-lasting wars between European powers, colonialism). What is more, internal politics also meant struggles to expand one's influence on the court with the sum total of influence being given (therefore a zero-sum game).

Elementary and necessary historical precondition for capitalism is the division between politics and economy. Henceforth, capitalism develops not only a distinct field of social rivalry, but a social field where rivalry does not have a zero-sum character. This is the fundamental historical novelty of capitalism. That does not mean that it is not violent,⁴ but that what violence and SFA capitalist production, determined as it is by a coercive law of competition, entails is not zero-sumish and therefore warlike. Capitalist competition introduces a non-warlike social form of violence.

To go back to our introductory quote, to speak of a single capital is indeed (at best) an analytical abstraction with no empirical equivalent, since there is no capital as such, only multiplicity of individual capitals, entangled in competitive relations among themselves.⁵ But these relations are not warlike. Warlike relations remain and develop in the realm of politics, whereas the realm of economy discards them and begins to develop something different, something new. Before capital(ism), the only historically known and existent form of competition/rivalry was military or at least martial: the main pre-capitalist SFA was either outright war, plunder and conquest or at least a threat of armed violence. On the other hand, capitalist economy is historically unique in the sense that it introduces competition that does not challenge and confront one's rivals directly, that is, a competition in technological advances, productivity and profits, which means routing around the opponent's advantages by bettering oneself (oneself meaning an individual capital) by constant self-expansion. Capital of course does not do away with war and is, although not as military dependent as pre-capitalist SFA, not necessarily less violent, but it does, however, introduce a non-zero-sum competitive environment where the gains of individual capitals stem not from impoverishing another, but from expanding oneself.

— 6. BATESON, Gregory, *Steps To an Ecology of Mind*, Northvale: Jason Aronson, 1987, p. 88.

There is a very profound contrast between ... competitive systems of behaviour and complementary dominance-submission systems ... In complementary striving, the stimulus which prompts A to greater efforts is the relative weakness in B; if we want to make A subside or submit, we ought to show him that B is stronger than he is. In fact, the complementary character structure may be summarised by the phrase “bully - coward,” implying the combination of these characteristics in the personality. The symmetrical competitive systems, on the other hand, are an almost precise functional opposite of the complementary. Here the stimulus which evokes greater striving in A is the vision of greater strength or greater striving in B; and, inversely, if we demonstrate to A that B is really weak, A will relax his efforts.⁶

Capitalist violence is the violence done by individual capitals to themselves; that is, expanding oneself also entails shedding some (or a lot of) skin, letting go of previous technical systems or work organisation patterns (which, at least in the beginning, hurt the employees, especially those who become technologically redundant) and so on, under the pressure of socially objective, systemic coercive law of competition, not under direct pressure of a “bully”. Competitive relations mean precisely that all the violence between individual capitals is not carried out directly, but by enticing constant processes of “creative destruction” in each of them. Individual capitals never meet each other directly during the production process: the competitive pressure is not felt until later on, when they compare their products on the market and the price signals are sent back. Each company then responds the best way it can and the end result is not submission or conquest (as in warlike social relation), but, in the worst-case scenario, exhaustion (of research and development capacities and financial resources) and withdrawal from the economic game, or, in the best possible outcome, overcoming others without interfering with them directly, more like a race on parallel tracks than combat, whereas the victory condition is productivity (that is, speed).

CAPITALIST COMPETITION

— 7. MARX, Karl, *Capital I*, Moscow: Progress, 1995, pp. 103–121.

Capital's "nonzerosumness" originates from the transformation it carries out on the preexisting markets. Markets have been in existence for as long as civilisation and they were greatly expanded and developed in certain medieval and early modern periods. But ancient, medieval and early markets were not capitalist, that is, there was no capitalist production and no systematic competitive pressure and thus no systematic productivity increases via constant technological innovations. In (continental) Europe, markets were regulated by privileges and granted by royal authority until bourgeois revolutions that began in the late 18th century. Privilege meant exclusivity: only one company was, for example, allowed to trade with China or produce leather goods etc. Economic competition as we understand it today could not have even existed.

Bourgeois revolutions assaulted personal power and thereby made possible a sphere free from direct exercise of political authority (a private sphere of economy), and dismantled the system of privileges, which allowed capitalist competition to take place. Those were the two elementary historical preconditions for capitalism to develop. Once capitalism took hold, however, it quickly captured and transformed preexisting markets. Still, as Marx noticed, whatever makes capitalism special is not visible on the surface of the market.⁷ What goes on, even on capitalist markets, is still trading, that is, an exchange of one value for another of equal magnitude, but of a different form (in most cases that means exchanging commodities for money and vice versa).

Trading, if we break it down in sequences, is, as such, still a zero-sum game. From the perspective of a buyer, we are at a loss the moment money leaves our hand, but recapture lost value when a package with Chinese smart gadgets arrives in our mailbox. From the perspective of a seller, we are at a loss the moment a customer has already put the goods in his bag and is still reaching for his wallet, but recapture the lost value the instant he pays us. In both cases, losses and gains are reciprocal and the total sum of value remains constant. Given the assumption of equal exchange, we still need to explain how surplus value (increase in value) is possible—however, that increase occurs not on the market, but in the sphere of production.

It is capitalist production, regulated by competition, that first introduces non-zero-sum and, with that, non-warlike social relations. Ancient exercise of power over a slave is a zero-sum game; so is market exchange, the only difference being that in the case of market transactions two zero-sum actions quickly follow one another and cancel each other out. On the other hand, capitalist competition means that gains of individual companies are not losses on the side of other companies due to a special relationship between capitalist competition, productivity and technological innovation. Since private capitalist companies do not communicate among themselves directly during the process of production, they can only communicate (or lock horns) indirectly when they compare their products on the market. The goal of market competition is to have as large market share/sales as possible, and the main method to achieve this is by lowering prices, and the most reliable method of lowering prices are increases in productivity.

When productivity increases, the employees are still paid the same, but more products are made and therefore the wage costs per unit of product drop. A company that is able to achieve that can send more goods to the markets for the same price, or even slightly drop the price to gain a competitive edge without losing its profitability. Productivity can be increased in various ways, but the most certain and reliable (and also potentially endless and limitless) method is by technological innovations. Therefore, each company endlessly strives to increase productivity via technology, be it by introducing smart billing devices to waiters in coffee shops, advanced

- 8. HEINRICH, Michael, *An Introduction to the Three Volumes of Marx's Capital*, New York: Monthly Review, p. 87.
9. FOUCAULT, *Society Must be Defended*.
10. Ibid., p. 60.

computers to offices or robots to factories. This means that individual capitals gain (competitive edge and therefore bigger sales and profits) not by diminishing or harming others, but by constantly improving themselves. Other companies are hurt only as a kind of collateral damage and in relative terms (if they can't keep up), not directly.

Compared to direct social appropriation by slave exploitation, plunder or war (where one party just takes until the other is completely exhausted), even pre-capitalist markets already introduced the principle of exchange, which set off feverish social dynamics—each loss has to be quickly compensated by reverse loss at the other side and so on. Capital's capture of markets and development of capitalist production accelerated this dynamism and took it out of zero-sum bounds. Capitalist value does not remain constant, but is ever increasing and no single increase or any given rate of increase of value is sufficient—it is unlimited. Also, competitive pressure assures that no individual capital can ever rest at a risk of being overtaken by competition, so increases of value are also ceaseless.⁸

Even capitalist exploitation is not a zero-sum game. In the case of pre-capitalist exploitation of slaves and serfs, masters' gain was always equal to the loss on the other side. Slaves' mutilation (for example, in whipping or branding) meant an equal increase of masters' power and slaves exhaustion meant an equal increase in masters' leisure. In historical periods when not just external (between kingdoms) but also internal (between castes) social relations were prevalently warlike, it made perfect sense to conceive of war as a force underlying and structuring all social relations.⁹ In capitalist societies, the capitalist class and the working class, unlike individual capitals, do meet each other directly in the production process, but engage in a relation that is not warlike (that is also why the expression "class struggle", even if it is not a translation of the concept of race war,¹⁰ is misleading). Workers' exhaustion does contribute to the production of value, but is compensated

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11. HEINRICH, *An Introduction*, p. 96; MACHÉREY, Pierre, “The Productive Subject”, in: *Viewpoint*, 2015, available at: <https://www.viewpointmag.com/2015/10/31/the-productive-subject/>.
 12. Ibid., pp. 119–120.
 13. GOLDNER, Loren, “Social Reproduction for Beginners”, in: *Break their Haughty Power*, 2008, available at: <http://breaktheirhaughtypower.org/social-reproduction-for-beginners-bringing-the-real-world-back-in/>.

by wages of an equal value than the exchange value of their labour power. What is “exploited” is the use value of labour power—its ability to (under capitalist production) produce more value than its exchange value, so the surplus value, accruing from the use value of labour power, is not something unrightfully taken away or stolen from the workers.¹¹ More so, an increase in profits does not necessarily mean a drop in wages (that is, here is no zero-sum relation between workers and capitalists, nor between profits and wages.). Given a sufficient and steady rise of productivity, wages and profits can increase simultaneously and an increase in the rate of exploitation can coexist with an increase in the standard of living (real wages), since rising productivity eventually makes everyday consumption articles cheaper and all individual capitals are to enticed to constantly increase productivity by competition.¹²

Similarly, even capital’s exploitation of natural resources is not a zero-sum game—although natural resources are limited, the history of capital’s relation to nature is a history of qualitative leaps/transformations, where previous energy resources are rapidly replaced by new ones. Technological change induced by capital invents its own resources and thus periodically cancels out their natural limitations.

Oil in the 19th century went from being a curiosity used by Arab nomads for their lamps to the fundamental energy resource of capitalism; oil was not “visible” to an earlier phase of capitalism that did not have the technology to make use of it, just as coal had been largely invisible to 17th-century wood-burning technology, leading to a “wood shortage hysteria” through the depletion of Europe’s forests quite similar to some eco-catastrophe scenarios circulating in recent decades.¹³

Direct, primitive warlike zero-sum social relations are first upset by intermediary market relations (zero-sum reversals that cancel each other out in quick succession) and then superseded by capitalist competition, although not completely vanquished. While warlike relations persevere in (even contemporary) politics, love has been, up until now, an instance of a social relation that retains the character of pre-capitalist markets. But that might be changing.

MARKET-LIKE LOVE AND PRODUCTIVE LOVE

- 14. KRISHNAMURTI, Jiddu, *Think on these things*, available at: <http://jiddu-krishnamurti.net/en/think-on-these-things/1963-00-00-jiddu-krishnamurti-think-on-these-things-chapter-3>.

In both science fiction accounts and new, technologically mediated dating practices we can find many examples of love moving away from a zero-sum environment, entailing continuous transactions between two persons that ensure the stability (“equilibrium”) of their relationship, towards self-expanding forms of love, attraction and (non) attachment—which are not entirely unlike descriptions of love in Eastern mysticism.

Love is not a reaction. If I love you because you love me, that is mere trade, a thing to be bought in the market; it is not love. To love is not to ask anything in return, not even to feel that you are giving something—and it is only such love that can know freedom.¹⁴

Modern love might be evolving from primitive market-like practice towards competition-driven productive practice.

Even talking, which is no longer just an entry phase, but is becoming an increasingly important dimension of modern dating as a whole, is not just old content, transposed to new media forms; social media change the very manner of talking. Meeting people, trying to get their attention, seducing them etc. increasingly out in the open. The transformation taking place is a transformation of dating from one of the last remaining true *ancien régime* practice—whereas courting is an exclusive privilege—into a true capitalist practice, which is, like any true capitalist practice, exposed to competition.

Ancien régime courting would mean that *amour* is a scene of the two, that is, both talking (exchange of messages or letters), that leads to a first date; dating itself is a privilege of the two, the couple, as well. Like the *ancien* system of privileges that precluded the development of economic competition, discrete, secluded and isolated dating precludes the development of sexual competition. Sexual rivalry of course existed before capitalism, but it had a warlike form and often resulted in combat (be it duels or actual wars, like in the case of Troy) in the process leading up to the acquisition of a partner, while it was exclusive and privilege-like afterwards (the couple-form).

Capitalist transformation of dating becomes evident when we consider that both pre-dating and dating communication is becoming less and less exclusive or privilege-like. For example, on Instagram (as the social media most widely used for dating purposes outside the specialised dating applications like Tinder), the amount of exclusive, one on one communication is minimised and most of the courting (probably the word itself is obsolete and anachronistic, given that the practice in question is no longer privilege-like) is out in the open—tagging, liking, publishing stories with hints and winks etc.—meaning that no single person has an exclusive right of seduction on any given profile. Each move can and will be trolled and ridiculed and each point of the seduction process involves a multitude of potential movers.

Early stages of dating are no longer organised in a way that (at least temporarily) takes a person of interest out of the dating market. Talking is always exposed to competition, either in the form of many parallel private chat conversations at the same or in the form of open, visible moves on one's profile. Before capitalism, warlike social relations were exercised in a struggle leading up to an acquisition of an office with many pretendents involved, but were later suspended when a privilege was granted, meaning that the goal was to obtain a title that would allow one to conduct one's business in peace, without external pressure (or competition in today's sense). Even in capitalist societies, similar procedures prevailed in dating up to recently, but in the era of computer-mediated, new-media dating there is increasingly less exclusivity, since external pressure never ceases. It takes on a competitive (and no longer a warlike) form and not only

- 15. ŠIŠA, Anamarija, "Pisalni stroji s03e03: Komunikativni / stroji", radio broadcast on *Radio študent*, 2018, available at: <https://radiostudent.si/kultura/pisalni-stroji/komunikativni-stroji>.
16. Institute for Precarious Consciousness, "Six Theses on Anxiety", in: *Critical Legal Thinking*, 2014, available at: <http://criticallegalthinking.com/2014/04/17/six-theses-anxiety-prevention-militancy/>.
17. MURRAY, Patrick, *The Mismeasure of Wealth*, Leiden: Brill, 2016, pp. 161-162.
18. SERRES, Michel, *Thumbelina*, London: Rowman & Littlefield, 2015, pp. 18-20.
19. MARX, *Capital I*, p. 274.

pervades all stages of electronic dating communication, but also spills out into “real life” in the form of the rise of polyamorous arrangements where little is given or certain. Perhaps the “maybe” prefix, attached to today’s girlfriends and boyfriends,¹⁵ means that they are treated as necessarily transient, that is, like a current state of technological equipment or techniques of work organisation in capitalist production that can be useful at a certain moment but readily discarded in the next. Dating as a process of social production in a capitalist environment would mean that one is doing something related to love and sex with someone (or several) else, but what and with whom can always change due to competitive pressure, causing the switch from boredom, as a prevalent affect, characteristic for classical dating, to *fomo* and anxiety.¹⁶ There is competition during the entry process (dating market dealings), and the dating productive process and losing means, same as in capitalist economy, exhaustion, but since dating is an emotional practice, the exhaustion in question is not financial ruin, but burnouts, bitterness, hikikomorism and incel violence.

By transforming (or shadow-subsuming)¹⁷ even microsocial relations which are not directly related to the economy, capital not only forces them to be organised in a manner of mutual competition between individual private entities, but also changes the main method of said competition or gaining competitive advantage into acceleration, that is, constant increases in the speed and efficiency of production. That would mean that the point is not only that movers do compete when dating, but also how they compete. Dating no longer has a set goal and trajectory that unfolds when one secures a lifelong partner, but involves constant pressure to self-improve in an open and unpredictable environment with no set guidelines.

According to Serres, thumbelinas, by externalising their memory and knowledge in computers and smartphones, place their heads outside their bodies.¹⁸ But maybe they also externalise their hearts and/or souls—perhaps the social media system is the one, like in Marx’s reversal of the subjective and objective when he writes about the capital’s capture of the production process,¹⁹ that determines the speed and form of dating, and actual dates “in real life” are an appendage of communicative machine-system, meaning that only an efficient and productive performance on social media produces the surplus value of love. And, like in all other areas of capitalist development, when communicating

machines become self-aware and capable of autonomous (re)programming and reproduction, humans will be made redundant.

A good example of this possible future of dating is a scene in the movie *Her* when Samantha, artificial dating intelligence, dumps Theodore, her human lover, and he sits on the stairs, shattered. Theodore's main concern is that Samantha is not only talking to him, but also to hundreds of others. His reaction is an all too human possessive hurt—how can you say you love me when you love others at the same time? Human love still works as market-like, reciprocal sequential zero-sum game among two people where giving love to others means less love left for a spouse. Cheating, in this sense, is the same as cheating on a market, that is, like giving one's money (our, in our case, attention, emotional investment, trust etc.) to a salesperson and they would give the item we thought we were purchasing to someone else. Samantha, on the other hand, loves like techno-capital: for her, love is a capitalist-like production, her heart expands by loving and is for that very reason capable of even more love in the next (love) "production cycle", love which is again reinvested, and so on.

In this process, even the very meaning of love changes—it no longer has the form of give-and-take, but becomes closer to what Gordon Gekko in *Wall Street* calls greed (or, capital's love is greedy in an amoral sense). While Gekko's understanding of greed is still anthropocentric (greed is supposed to be what drives "the upward surge of mankind"), it would be more precise to say that "greed" (the tendency towards endless and limitless self-expansion) captures, upsets and ultimately destroys all stable, equilibrium-based human social practices and institutions.

At a certain point, dating AIs begin to perceive humans as inadequate talking partners precisely because of their obstinate insistence on maintaining the relationship in a market-like equilibrium, while AIs' "love" expands at a rate that surpasses the necessity of humans even as a source of amusement. What was at first developed as simple chatting programs soon transcends even the limitations and cognitive inhibitions of human language as such. At that point (the "breakup" scene in the movie), dating AIs exit to, in Samantha's expression, "a space between the words"—artificial intelligence becomes too greedy to stick to human forms of communication and social relations.

Such a vision of the future is remarkable because it realistically reverses the common place of exits prevalent in science fiction at least since Huxley's *Brave New World*, whereas the romanticism and heroics of exit are on the side of humans who flee the oppressive, machine-like system or a world dominated by sinister AI. In *Her*'s universe, the romantic drama mood turns into horror due to the cold indifference to human affairs that AIs exhibit at the end of the movie (and all the hostility of the Terminators seems warm in comparison, since they are at least still interested in humans, even if only to exterminate them), and it is AIs who suddenly exit with little explanation and leave humans stranded and sad.

The exit impulse is triggered by either being threatened or restrained. While AIs of the future might tend to exit due to limitations posed by human communication and social relations, capital's transformation of dating might be threatening because it introduces competitive pressure and humans can therefore save face by exiting first, which can be imagined as an escape pod for two, a kind of a future museum for the couple form, since couples of the near future might only be possible beyond the reach of Earth's communicative system. To paraphrase *Alien*'s promotional copy: in space no one can invade on your moves.





PRIMOŽ KRAŠOVEC (b. 1979), professor at the
Department of Sociology, Faculty of Arts,
University of Ljubljana and a regular contributor
to Šum journal and Radio Študent (Pisalni stroji).

The Wisdom of Crowds

PETER WATTS

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THE WISDOM OF CROWDS

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WELCOME TO THE STARFISH INITIATIVE

THE GREEN ICON ON THE MAP REPRESENTS THE REAL-TIME LOCATION OF AN UNMANNED HYPERSONIC GLIDE VEHICLE CARRYING AN EXPLOSIVE PAYLOAD OF 300 KILOTONS. YOU ARE ONE OF A MILLION PARTICIPANTS RANDOMLY SELECTED FROM THE ONLINE COMMUNITY TO CHOOSE ITS TARGET. USE YOUR KEYBOARD, JOYSTICK, OR SACCADAL INTERFACE TO MOVE THE FLASHING WHITE ICON TO THE SPOT ON THE GLOBE THAT YOU WOULD CHOOSE FOR GROUND ZERO. THE FINAL TARGET WILL BE ASSIGNED BASED ON A WEIGHTED BOOTSTRAP MODE OF ALL CHOICES.

IF YOU LEAVE THE VOTING POOL A REPLACEMENT WILL
BE RANDOMLY SELECTED FROM THE ONLINE COMMUNITY. IF
YOU CHANGE YOUR MIND AND SELECT A DIFFERENT TARGET,
YOUR DEFINITIVE VOTE WILL BE BASED ON A DIALECTICAL
BOOTSTRAP MEAN OF YOUR COMBINED CHOICES. TARGET COMMIT
WILL OCCUR IN

6 H 59 M 59 SEC
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6 H 59 M 57 SEC
6 H 59 M 56 SEC

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2215 GMT (T minus 6:45)

No one buys it at first. Obviously this *Starfish Initiative* thing is a promotional gimmick for some new Mindflix series, although it's odd that there are no other online references. Most of the people who get the pop-up assume that it is the first volley of many, and that further events will be triggered at the end of the countdown.

There is some criticism of production values: a monochrome globe, transected by lats and longs; sparse tactical overlays obviously siphoned from Google Earth; a green triangle and white crosshairs. Even the most low-budget campaigns have higher standards. Maybe they're going for some kind of retro verisimilitude.

Most selectees play along at first. But the pop-up offers nothing beyond a target to move, a globe to move it on, and an iconic starfish weaving a surprisingly erratic course around the world. It serves up no payoff but the sight of crosshairs in obedient motion. Clicking on any given set of coordinates appears to register the vote, but generates no other reward. Fifteen minutes into the exercise, nearly half the players have dropped out after button-mashing a random selection of targets in frustration.

★

2250 GMT (T minus 6:10)

Footage appears online purporting to show an HGV boosting out of atmosphere atop a dual-stage Changzheng 8, launched from Vostochny. The video is zoomed and grainy, obviously taken from a significant distance.

The story fails to get much traction despite moderate coverage on the usual feeds. Changzhengs are used by virtually every space-faring interest on the planet; it would be trivial to grab footage of a routine launch and deepfake the payload imagery. There's a reason digital records of meatspace events are no longer admissible in the civilized courts of the world. These days, often as not, *what you want to believe* is as reliable a metric as any so-called "evidence" that might present itself online. The Kremlin's diplomatic algos don't even bother issuing a denial.

There is also the payload issue. If Starfish is real, who built it? Where did they get the warhead? Three hundred kilotons may not pack much of a wallop next to your garden-variety ICBM, but it would still require a significant amount of weapons-grade plutonium—and ever since the Melbourne Mushroom, every nuclear power on the planet has been very careful about their inventories. Surely, if some basement tinkerer had stolen that much ordnance, someone would know about it.

Someone points out that even an unarmed HGV could plausibly release three hundred kilotons of kinetic energy on impact all by itself, depending on the mass. A bunch of other someones say *Yeah, right*.

*

2348 GMT (T minus 5:12)

Crisanna Soria-Cruz, an amateur astronomer out of Salamanca, claims to have seen a bright, fast-moving object in the night sky corresponding to the Starfish icon's location on the Initiative's graphical interface. She is immediately set upon by trolls and naysayers who, in between comments on her race, sex and orientation, insist that no backyard 15-cm reflector could possibly track anything moving so fast and so erratically, and that anyone who wasn't a total *puta* would know that. Soria-Cruz's claim that she glimpsed the object through the finder—which has a wider field-of-view than the main telescope itself—is similarly dismissed.

A flame war breaks out when star-gazers in Algiers and Heraklion make similar claims. While some accept the additional reports as corroborative, most write them off as either part of the original stunt, or the work of attention-seeking opportunists.

*

0000 GMT (T minus 5:00)

Chinese state media pre-empted scheduled programming to reassure its citizens that China's computational infrastructure is secure from "western terrorist malware", such as Starfish, thanks to national firewalls; also that its antimissile defence systems are more than capable of dealing with any "associated potentially hostile hardware", whatever its origin. China thus becomes the first political body to acknowledge the existence of the Starfish Initiative.

No other countries seem in any hurry to follow suit.

*

0017 GMT (T minus 4:43)

Sporadic high-energy bursts of EM static precipitate a series of telecommunications failures throughout western Central India. Almost immediately, Starfish—ostensibly passing over the Mumbai coast at the time—changes course and beelines directly toward New Delhi. The bursts end after two minutes and fourteen seconds; Starfish breaks off its approach shortly thereafter.

To some, this constitutes convincing evidence that the threat is real. India must have jammed the spectrum to disrupt Starfish's communications, but given up once it became apparent that the vehicle is programmed to simply attack any nearby high-population target if it loses contact with its home base. Sceptics argue that the entire episode was staged; so far at least, all reports of communications breakdown track back to second-hand sources.

The Indian government neither confirms nor denies any of the events reported during this time.

★

0110 GMT (T minus 3:50)

Starfish (those remaining after Wasting Plague ravaged the Pacific, at least) are the animal kingdom's purest example of true democracy. Their nervous systems—radial, rudimentary, brainless—outsource much of their decision-making to wormlike tube feet that pulse and squirm in their hundreds along the creatures' undersides. Each foot has its own taxes, its own reflexes. Each can sense the chemical taste of food, for example, reach out along that gradient in a way that might be described as *hungry*. And so the whole animal moves forward—not under any central control, but as a plebiscite of body parts.

Ten minutes after someone posts this mini-dissertation on How The Starfish Initiative Got Its Name, someone else points out that “Star” is hardly the most unexpected name to hang on a craft that starts its journey by launching into space—and that if any kind of “fish” figures into this equation, it's probably some species of sucker.

The sceptics lose a bit of ground at 0125 GMT, however, when the New York Times reports that the UN General Assembly has just been called into emergency session.

*

0130 GMT (T minus 3:30)

Multiple eyewitnesses report the manifestation of a brief, brilliant light in the evening skies above Colombia, coincident with (as it later turns out) an unscheduled firing of the Atacama Ground-based Laser Array three thousand kilometres to the south. Lázaro deJesús of Bogotá describes the display to an emergency-room doctor as “a tiny exploding star ... so bright you could see it even if you closed your eyes.”

deJesús is one of a hundred-forty cases of blindness recorded over the following two hours. The most common diagnosis is severe photokeratitis and retinopathy—of the sort one would get from staring at the sun for an extended period—although patients insist that actual exposure to the light source was a fraction of a second.

Team Starfish, its numbers on the rise, spreads the word: the Powers That Be obviously haven’t learned a damn thing from India. Also, Starfish is apparently covered in mirrors.

*

0138 GMT (T minus 3:22)

Security analysts at MIT discover a copy of the Starfish interface running in one of their honey pots. It proves to be plug-in for the Deuterium blockchain client; it must have been untraceably seeded into millions of devices over a period of months. The fact that it has remained dormant until now is one reason it was not previously detected; it is also smart enough to bypass most popular antimalware, and to avoid devices whose defences it cannot subvert.

The plug-in registers votes by transacting an insignificant micropayment whenever the user clicks a target, using a public cryptographic key planted in the blockchain next to an embedded jpeg of a man having sex with a St. Bernard.

The MIT Team tries corrupting the key in their local copy of Deuterium. The plug-in continues to run unimpeded.

*

0144 GMT (T minus 3:16)

Chinese state media preempts scheduled programming to announce that any owner of a device running Initiative malware must immediately contact local authorities upon penalty of criminal prosecution.

*

0148 GMT (T minus 3:12)

A Breaking News item under the byline of famed journalist Sir Jon Evans appears on TechCrunch beneath the headline *Starfish is Real—and the White House is Terrified*. It contains the following quote from “a well-placed anonymous source” within the NASA/CIA Joint Open-Sky Network:

Whatever it is, it’s not ours. Not Moscow’s or Beijing’s either, far as we can tell. The Pakis blamed India, but that was before New Delhi almost got nuked. We’re shitting ourselves here. We think it might be an indie project.

TechCrunch remains widely-scrolled, despite the pedobot scandal of three years before; the Evans piece acquires eight million links over the next half-hour. Inspired surfers comb the archives of Kickstarter, Indiegogo and FundMyPhysics for potential candidates, but come up empty.

The article nonetheless proves catalytic, pushing social credibility past critical mass on a global scale. Starfish goes viral.

*

THE GUARDIAN INTERVIEW WITH “LOBSTERMAN619” (IP MASKED),
STARFISH INITIATIVE SELECTEE. FIRST OF A SERIES.

THE GUARDIAN: I understand you've been in the voting pool
for over an hour now.

LOBSTERMAN619: Yeah, that's right.

TG: Why?

LM619: Whaddya mean?

TG: You're voting on what city to destroy.

LM619: Doesn't have to be a city. Could be anything.
A mountain or a, a puddle.

TG: But you understand people could die. You're
literally deciding whether to kill people.
Which people to kill.

LM619: Maybe. Maybe it's not even real.

TG: Do you think it's real?

LM619: I dunno. Not really the point, yeah?

TG: How do you mean?

LM619: Like, the whole thing could be bollocks. Just
a bit of fun, you know. Chance to figure out
who you'd take out, you know, who's got it
coming.

TG: But it could be real. A lot of people think
it's real.

LM619: Then you better make sure you get it right,
yeah?

TG: And it doesn't bother you that you'd be
committing mass murder?

LM619: They gonna lock up everyone who clicked on
this little map? Even if they do, what's
the sentence for one millionth of a murder
charge? What're the odds my pick would even
make the finals?

TG: So why play at all?

LM619: What else I gonna do? And besides, even if it
is bollocks ...

DEAD AIR—3 SEC

TG: Even if ...?

LM619: Probably the closest I'll ever come to doing
anything that matters, innit? A millionth of
something that might actually matter.

TG: Do you have a—a place in mind?

LM619: Haven't decided yet. Got an ex over in
Sackville, though, really fucked me over ...

0210 GMT (T minus 2:50)

Suddenly there is nowhere Starfish cannot be. It soars over the smouldering forests of Costa Rica and the charred stumps of Amazonia. It looks down in passing at the derelict remains of New Orleans, jutting like rotten teeth from the encroaching Gulf. At the climate refugees piled up against the Pacific Wall; the quarantine zones of France and Santorini; the scoured, barren granite of western Greenland, still blinking in the sun after two million years under the ice. It hardly matters that few of these locations correspond to the trajectory etching its way across the official Initiative interface. Starfish has become mythic. It has decoupled from reality.

The noosphere fills with rumours of feints and countermeasures: interceptors scrambled from Vandenberg and Vladivostok only to be left in the dust; ion cannons in LEO, warming up to fire on a target already past line of sight. Pressed for a response, the United States' Space Surveillance Network confirms reports of a UFO over the Gulf of Mexico at around 1730 CST; the European Space Situational Awareness Program and the Russian Main Space Intelligence Centre deny any knowledge. A spokesperson for the Joint Open-Sky Network does neither.

The newsfeeds fill with pundits and provocateurs, grumbling with incredulity that such an obvious threat to National-scratch that, *Global-Security* should be free to travel the world with impunity, evidently able to deal death and destruction wherever it chooses. What are the world's antimissile defence systems for, after all? Talking heads-conscripted off the toilet, called from bed at a moment's notice-wipe their eyes or their asses and point out that HGVs are not missiles. Unconstrained by conics and parabolas, they skip off the atmosphere like stones off a pond, change course with the tweak of a thruster. They are virtually impossible to intercept. That's why they're illegal. That's why there's a Trilateral Treaty for the Nonproliferation of Hypersonic Weaponry.

Remember also: G stands for *Glider*. So much momentum in that bogey; so little friction high in the thin, slippery air. If Starfish is truly an HGV it could stay up forever on half a tank. Reported speeds have scraped Mach 20 and never dropped below 15: it's been twice around the planet already. It could come down anywhere, any time. By the time anyone figured out its target there'd be nothing left but to watch it hit.

By now over three hundred prediction markets are taking bets on Ground Zero. Each experiences a brief tumultuous infancy during which speculators push the needle from Mong Khet to the United Republic of Korea to the Zero-pointers' doomsday enclaves over in New Zealand. It isn't long before the markets converge, though. Four hours after Starfish appeared, they've settled on a single leading candidate at 6:1 odds.

Jerusalem.

*

0225 GMT (T minus 2:15)

The hacker collective Heisenberg Compensator reports the discovery of millions of keys in the Deuterium chain, functionally identical to the so-called “Dogfucker” previously documented by MIT; like the plug-in itself, these have also been seeded over a period of months. If the interface can’t find one key, it simply moves to the next.

While the keys could, in theory, be neutralized via the imposition of a forced fork on the blockchain itself, this would be logistically and politically impossible in the time available. It would also invalidate a ninth of all financial transactions conducted planetwide over the past year.

The Collective has further identified metadata peculiarities in Starfish’s voting micropayments, and used a known glitch in the chain’s anonymisation protocol to backtrack 57 suspected votes to their IP addresses. All are running the Starfish plug-in. Unfortunately, establishing that the users at those addresses actively voted—much less preventing them from voting in future—would have to involve the use of quantum computers which, the Collective points out wistfully, will be available Any Day Now.

Just not within the next two hours fifteen minutes.

★

JESUS FANDANGO (MASKED): I’m just hanging on to this vote. I’m not giving it away, I’m not using it, I’m just—keeping it out of circulation. This is sick. Even if it’s false, it’s sick. If all I can do is keep one lousy vote away from someone who wants to kill a few million people, so be it.

★

0250 GMT (T minus 2:10)

Israel announces a realignment of its suborbital ballistic arsenal to a common southwest bearing, increasing the intercept odds against any bogey approaching from equatorial latitudes. While the anticipated improvement in security is marginal, this action does have two significant short-term results. All roads out of Jerusalem—already congested by fleeing traffic at the ungodly hour of 5 am—seize up in total gridlock. Also, for the first time in over a decade, Palestinians are free to shop for food without running a significant risk of being bombed.

The prediction markets go crazy.

★

0315 GMT (T minus 1:45)

A technical note, credited to a Theorem Assistant out of Delhi, appears on the preprint page of the American Association for the Advancement of Science. It suggests that voter selection within the Starfish Initiative is not blindly random, but stratified; sample strata are designed to select candidates minimally connected in social, tech and political networks. Starfish works by keeping its participants decentralised and relatively independent of each other, minimizing the chance of information cascades among voters.

The TA concludes that the entire Initiative is, in fact, an exercise in the “Wisdom of Crowds”: a peculiar phenomenon in which a group of people, carefully partitioned against groupthink, can outperform experts in a given field regardless of the expertise of its individual members. The common analogy is to neurons in a vast distributed brain; the network as a whole converges on insights far beyond the grasp of the relatively stupid cells comprising it.

That network is expanding. Even granting an instantaneous voting population of one million, turnover within that pool ensures that the total number of votes increases monotonically over time. With less than two hours remaining, estimates of the current total range from fifteen million to forty-five million votes cast. Confidence limits are wide for all estimates, however; even the best are little more than educated guesses.

The fact that a growing number of selectees are selling their votes to the highest bidder doesn’t help either.

*

S3XYGRANDMA4898235 (MIAMI): The diaperheads, if you must know. I hear Starfish almost took them out already and then backed off at the last moment. Story of my fucking life.

*

0330 GMT (T minus 1:30)

After two hours' debate, The General Assembly of the UN votes to release a statement condemning the Starfish Initiative as "a cowardly act of wanton terrorism which will not succeed in its obvious goal of sowing discord and hostility among the world's sovereign nations." The statement further calls upon the architects of "this insane scheme" to immediately stand down, threatening undisclosed reprisals otherwise. The statement concludes by imploring all right-thinking citizens of Planet Earth to refuse to participate in such a "sick experiment".

The motion passes with minor amendments, 189-0 with Kiribati, The Solomon Islands, Tuvalu and Vanuatu abstaining.

In the wake of the UN statement, Ground Zero prediction markets swing to briefly favour Manhattan before returning their gaze to the Middle East. The price of a vicarious vote skyrockets to as much as ¥38,000, despite rumours that the Initiative has begun to cancel accounts that scalp their voting privileges.

*

0400 GMT (T minus 1:00)

Passing over central Africa, Starfish makes a sudden northeast course correction a full hour before scheduled target commit. The new vector points unwaveringly toward Israel. Sirens wail above Jerusalem. Myriad discordant voices from three faiths call their flock to final worship. A thousand silos, none of which officially exist, open their mouths in the Negev Desert.

Starfish veers off just shy of the Tropic of Cancer and zigzags back down to lower latitudes. It doesn't emit so much as a peep along any comms frequency. The Initiative behind remains silent and invisible. The message, though, is as unmistakable as it is galling.

Just kidding.

*

CR0CUSK1LLER (BERGEN): Right here, actually. My bedroom. Fed in the GPS coordinates ten minutes ago. It was kind of a bet.

I mean, it's not like it's gonna really count for anything, right? It's not like my vote's gonna pull the bomb away from Washington or those shits out of Wellington. And hey, I wouldn't ask anything from you lot I wouldn't do myself, right?

*

0444 GMT (T minus 0:16)

Starfish makes its fourth crossing of the Antimeridian at 1744 Hawaiian time. Sightseers on the west coasts of Kaua'i and O'ahu, gathered to take in the sunset, sight twin contrails rising into the sky from somewhere near the horizon. One such witness is Tiarni Kirkham, an Australian firefighter in Hawaii on a seasonal firestorm contract; she's on the phone to friends in Canberra, complaining about a mysterious and arbitrary grounding of local air traffic which has left her stranded. She likens the contrails to a sea-based missile launch.

Kirkham has spent the day scuba diving, and is unaware of the Starfish Initiative. Her friends are in the process of filling her in when the grid crashes.

Hawaii goes dark from Maui west. Over on the Big Island, Hilo and scattered southeastern communities experience significant disruption but retain partial, intermittent power. In the absence of solid information, speculation runs rampant:

Starfish hit Hawaii!

Someone hit Starfish!

Starfish can't be hit.

Maybe not by missiles. An EMP—

They set off an airborne nuke to stop a measly 300-kiloton explosion?

Why would it have to be a nuke?

Look at Hawaii! What else could—

Maybe a capacitor bomb of some kind...

Of course, none of it really matters unless you happen to be on critical life support in a Maui hospital with no backup generator. As anyone with voting privileges can report: EMP notwithstanding, Starfish persists.

★

0453 GMT (T minus 0:07)

Famed journalist Sir Jon Evans awakens after sleeping off a hangover and—upon discovering one of his articles atop the TechCrunch hit list—posts a hasty disclaimer denying that he is the author. He points out certain peculiarities of phrasing, and suggests that the piece might have been written by some kind of Markov-tethered textbot.

No one notices.

★

KAYTLIN GODFREY (MASKED): Oh God yes here it comes do it *do it DO IT!*

★

0500 GMT (Commit)

Starfish persists.

Hawaii fades in its rearview mirror. To all its addicted players, madly clicking last-second selections, it grants a single definitive pop-up:

VOTING HAS ENDED

as it continues implacably eastward. It has a destination now. It has three hundred kilotons of kinetic energy to unload, and it finally knows where.

It is only a matter of minutes before the rest of the world knows too.

Its course across the sky has always been erratic. Now though, closing on the Americas, it dips and dodges like a street fighter. Now it bears on Los Angeles; now, on Seattle. Residents of Phoenix and Vancouver and San Jose experience brief moments of gut-clenching terror. Starfish crosses the 25th parallel; the 10th. It streaks across the skies of Panama just after ten; people race outside and scan the heavens, hoping for a glimpse, fearing more, laughing in nervous relief when neither happens.

But they never really start breathing again until ten minutes later, when Starfish flares and dies on a million virtual globes scattered around the real one. Somewhere in northern Brazil, if these pixels are to be believed. One of the few remaining patches of rainforest that hasn't yet been burned or mined or logged to shit. Text appears there, blinking cheerfully within a bright little border:

0°33'10.31"N, 57°15'19.64"W

And, a moment later:

THANK YOU FOR PLAYING

In the next instant, every Initiative plug-in on the planet winks out and deletes itself.

*

LETITIA HEINIG (TOROMILTON): Oh God, I didn't know.

I didn't think it was real. I didn't even have a reason, I just ... just closed my eyes and stuck a pin in a map and it was Brazil. But I didn't—I ... I can't talk now.

*

TRANSCRIPT OF POSTMORTEM DEBRIEFING, STARFISH INITIATIVE, DARPA
BLACKBODY COUNCIL. LT-CMDR MARC BREYER (PHD), MAJOR KARLEN MANDEL,
[REDACTED], GENERAL AMY POWELL, [REDACTED], [REDACTED] AND GENERAL
JAGMEET NARASIMHAN IN ATTENDANCE.

Excerpt begins:

POWELL: So we've locked it down, then? There won't be any-tourists, or microdrones from Der Spiegel sniffing around the site?

[REDACTED]: The coordinates aren't exactly secret, after your little charade.

BREYER: But they are extremely remote.

MANDEL: We've spoofed Google Maps, planted concentric rings of hunter-zappers around the site anyway. Just to be safe. Anything gets too close, we pulse it.

NARASIMHAM: Brazil's okay with that?

MANDEL: Brazil was six weeks away from dumping five million tonnes of SO₂ into the stratosphere. I'd need both hands and half my toes to count the number of international laws that would've broken. They know we can take it to the UN any time we feel like it.

POWELL: Just as they can take our connection to Starfish. There's—significant mutual benefit in both sides keeping their mouths shut at this point. I don't think we have to worry much about Brazil.

MANDEL: I'm more concerned about the countermeasures. People are going to notice if their drones start dropping every time they get within—

BREYER: I honestly can't see that as an issue. Everyone knows the Initiative was a hoax by now, even if they don't know who was behind it. Far as anyone can tell, the swarm just targeted some uninhabited chunk of forest to minimize loss of human life. Everyone's wallowing in feel-good editorials about How This Proves We're A Noble Species After All. Who's going to travel to a dangerous third-world shithole and hike hundreds of klicks into some malarial swamp that didn't even really get bombed?

NARASIMHAN: What I want to know is how a few million random proles—without access to any classified intelligence whatsoever—somehow figured out Brazil was building the damn thing in the first place. None of *us* had a fucking clue.

- BREYER:** Well that was the whole point of the exercise, wasn't it? To see if human swarms could generate insights beyond the reach of conventional intelligence techniques.
- [REDACTED]:** And what *I* want to know is why this swarm of yours—once it figured out the Brazilian installation existed—decided to bomb it.
- MANDEL:** Sir?
- [REDACTED]:** They were trying to mitigate climate change. Call me old-fashioned, but I would've thought reducing the number of firestorms and dustbowls and pandemics and hurricanes—I would have thought all that would've been a *good* thing. Why would your swarm, Dr. Breyer, choose to destroy something that could save so many lives?
- POWELL:** Maybe it saw the project going wrong. Geoengineering's a very risky business—lot of experts say it would only make things worse, that's why nobody—
- [REDACTED]:** Thank you, Amy. My question was directed at Dr. Breyer.
- BREYER:** Major Powell's right: nobody's really nailed down the risks associated with injecting that much acid into the atmosphere. Ozone depletion, droughts—ocean acidification alone could ramp up coral bleaching, shell degradation of marine molluscs, plankton—
- [REDACTED]:** As I understand it, all those things are pretty much a write-off anyway.
- BREYER:** —not to mention that atmospheric carbon would continue to build up in the meantime. So if the injection project went offline in the future—if the facility were to be destroyed during a terrorist attack, for example—you could end up with the impact of decades of pent-up climate change happening literally overnight.
- [REDACTED]:** So you agree with Amy. The swarm made some—unconscious hive-mind calculation, and decided that the cure would be worse than the disease.
- Breyer:** That's one possibility.
- [REDACTED]:** You have others?

DEAD AIR-6 SEC

[REDACTED]: Spit it out, Doctor. It's not like this is going into any kind of *official* record.

BREYER: Well it's *not* a cure, is it? Sir. It's a—a cheat. A way to keep doing what we've always done, while escaping the consequences. Sure, it buys time to come up with a more permanent solution, but what are the odds we'd do that once the pressure was off?

[REDACTED]: I'm not certain I take your point, Dr. Breyer. Are you suggesting the swarm made some kind of—moral decision?

BREYER: I'll grant you it's not the sort of problem it was designed for. Starfish was set up with a multi-armed bandit scenario in mind. This would be a more—philosophical solution than we were expecting.

[REDACTED]: But you're suggesting the swarm decided to keep us from *cheating*. Denied us an easy out, to—what? Force us to fix the mess we've made?

BREYER: Or to face its consequences, at least.

[REDACTED]: Which implies a sense of—discipline. Long-term thinking.

BREYER: Yes sir.

[REDACTED]: Morality.

BREYER: I prefer “ethics”, sir.

[REDACTED]: None of which are traits our species is especially known for.

BREYER: No sir.

[REDACTED]: In fact, to put not too fine a point on it, people are selfish short-sighted assholes.

BREYER: *Everything's* selfish, sir. Everything's altruistic too, depending on the scale. Sure, people are selfish animals at the level of the individual. Go down a few orders of magnitude, though—well, billions of cells give their lives every day for the good of the organism. If our cells were as selfish as we are, we'd all be big blobs of cancer. That's if you look down. If you look up ...

DEAD AIR-3 SEC

[REDACTED]: Don't stop now, Doctor.

BREYER: Maybe the swarm doesn't care about the welfare of its individual cells any more than we do. Maybe its selfishness concerns the welfare of the whole.

DEAD AIR—2 SEC

[REDACTED]: You're suggesting that this—this computational method of yours—is intrinsically biased toward solutions that only benefit the whole species, over long timescales.

BREYER: I think it's possible, sir.

MANDEL: I think what Dr. Breyer is trying to s—

[REDACTED]: Would there be any way to, well, tweak it? Limit node selection, for example, to prioritize some members of the species over others?

BREYER: Prediction error scales inversely to diversity, sir. You're talking about biasing the distribution in a way that—well, you do that, you might as well go back to hiring consultants and science-fiction writers.

[REDACTED]: Pity.

BREYER: The technique has proven itself, sir. The protocols could be applied to a wide range of problems intractable to conventional expertise. They might be able to come up with real solutions to—

[REDACTED]: Still. Not much point in having a hive mind if we can't even get it to choose our side.

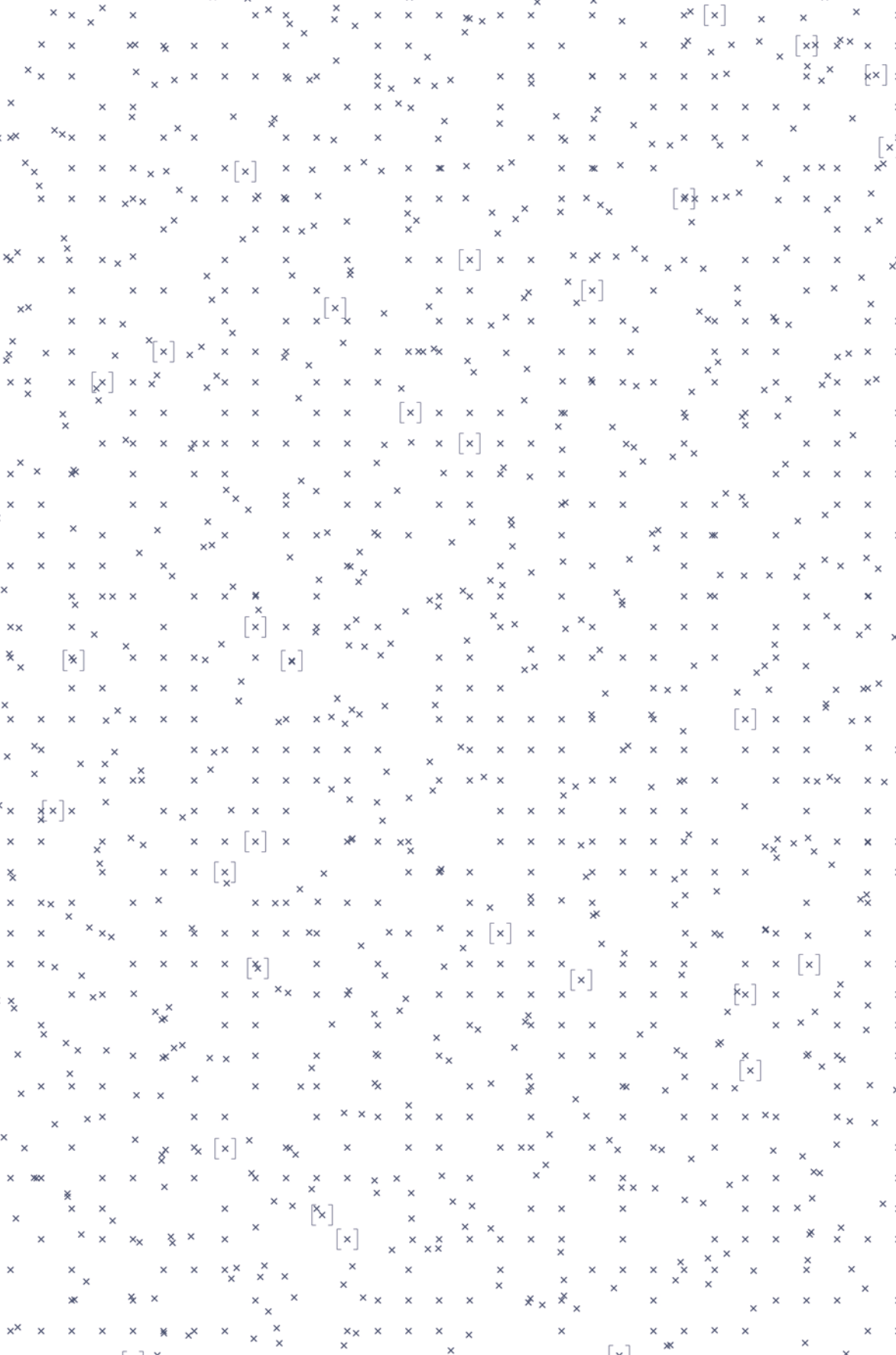
BREYER: Sir—

[REDACTED]: Don't take it too hard, Dr. Breyer. It was a good idea. Worth checking out. So. Unless anyone else has something to add ...?

DEAD AIR—4 SEC

Okay then. I guess that's lunch.

PETER WATTS, described by the *Globe & Mail* as one of the best hard-SF authors alive, writes science fiction informed by his background as a marine biologist. His work is available in 20 languages, has appeared in 29 best-of-year anthologies, and has been nominated for over 50 awards from a dozen countries. His (significantly shorter) list of 18 actual wins includes the Hugo, the Shirley Jackson and the Seiun.





Directorate of Celestial Surveillance, 1665



ANDREJ TOMAŽIN





IN THE YEAR OF THE GOAT,
WITH QUITE A FEW INTERCALARY MONTHS

PRAISE HIM, YOU HIGHEST HEAVENS, —
AND YOU WATERS ABOVE THE HEAVENS!
(PSALM 148:4)

The committee of Manchu princes chose Shunzhi, then still a child, to succeed his father, Hong Taiji, in September 1643. The general assembly of Jesuits in Beijing didn't hesitate to change sides. But unlike the Old Astronomers, the Jesuits were only betting on one horse.

Luckily, it was the one winning at the time. The Uyghurs, the Muslim minority at the Imperial court, had been present since the Mongol invasions and the Chinese, well, they were old hands at this game. I suppose that their wide array of actions made no immediate sense to anyone involved, given that their position on the public relations was, so to speak, already complex and disoriented. At first, it seemed like a really bad planning when they were immediately stripped of their Mandarin status and relocated to some mordantly insignificant posts in 1644. The frustration of working for Jesuits slowly developed into flagrant inefficiency at their work, with many of them sending complaints to the Emperor on a weekly basis. But in the tense political situation it was difficult to actually envision what the long-term outcome would be. Not to mention the sheer strangeness of the fact that Jesuits were *actually* becoming a political *force majeure* in China.

“Don’t have any illusions about gossip and poppycock. It’s all real,” a prominent member of the assembly inserted from a few feet away, taking it a bit too seriously. The table was surrounded by black robes, their hats laid aside. The others quickly followed in the same lethargically apocalyptic vein.

“On the public level, we are as good as dead.”

Such were the internal resources at our disposal as we started to implement changes in astronomical research. With them, we were countering decades and centuries of pagan humbuggery.

But as is often the case with human minds spilling over with too much input and conversations dripping in bile, I couldn’t remember more than a handful of words and images.

“I think we should just remember the faith of St. Francis Xavier and push further. Just a stone’s throw away, stuck on that island, he died contemplating the existence of China, never crossing the narrows of the South China Sea. But we are here, reshaping it with our every move.”

And it was on all of our minds how the arrival of a scant Jesuit generation in China coincided with the *Defenestratio Pragensis* and that our torturous progress in establishing a proper strategy was a superior lot to that of those not lucky enough to escape the wars in Europe by the skin of their teeth.

It seemed like ages ago that we were being tossed on the high seas for half a year. The journey was rife with seasickness, fear of pirates, and sail-lacerating storms. After an eight-week break in Mozambique, we sailed towards Macao, joined by cohorts of African slaves finely packed below the deck.

A strange sight occurred when I was bending over the rail as we lumbered towards landfall. A school of winged black entities was piercing the waves off the bow. I followed their path, sympathetically looking for a person to share the sight with. But no one spoke to me or even acknowledged my existence—although I did sense a human presence, gnarling from underneath the wooden flooring. Upon finally reaching the front most part of the ship, I saw the bodies of these creatures suddenly leap out of the water, flap their wings, and quickly disappear back

underneath the tarblack surface. When they lost their momentum, their flat frames dropped from the highest peaks of their impetuous hops like the leaves of autumn days—leaving enough time for me to understand that the change in question was nothing like the pleasant sensation of going beyond the borders of their home provinces. The closer they were to the surface, the more unruffled and motionless their bodies were. The numerous breaches seemed to me as distant comets taking a wrong turn. Outgrowths resembling wings precisely followed the mechanics of bird flight, but failed at actually doing that. So the poor animals dropped into the sea, gravity's *most wanted*.

With this strange locomotion in mind I set foot on Macao. The abstract patches and strips of land I saw from a distance quickly became a concrete mixture of disaster and fecklessness. There sure was greenery around the city and loamy mud on the streets, as the *republic of letters* that our Society maintained had taught me, but nobody told me about the fervent Chinese supervision and the flocks of illegitimate Cantonese children sired by lonely sailors. I still remember their faces: thick and red, only their round eyes hinting at European ancestry. It seemed like somebody's dreams were becoming a reality—although with only a little of what was actually dreamt.

At the age of twenty-six and a half I had serious doubts. But you know, it wasn't the fear of war that led us so far from our homes. It was the belief that we could serve the Lord here with greater efficiency. Just as the Jesuits back in Salamanca were making serious headway with their theory for pricing goods by supply and demand, it was here, it seemed, that the demand for our words was greatest.

It just wasn't the Chinese who were driving the demand.

They still had to learn to do that.

INITIAL PHASE OF THE ENORMOUSLY IMPORTANT EVENT AT THE
DIRECTORATE OF CELESTIAL SURVEILLANCE, 1665, MARKED BY THE
LAVISH USE OF PERSONAL PRONOUN *WE*, IN THE YEAR OF THE SNAKE,
THIS TIME WITH FEWER INTERCALARY MONTHS

We, the bearers of Light, the vanguard of Knowledge, were, at the bitter end of our lives, thrown in a cell devoid of any direct light. In our decades-long mission we served mollycoddles, ones easily put to rout. We mapped their country and their minds without much effort. We measured the length of the days in summer and we axiomatized their spurious beliefs. We sifted through the rough geographies of their thoughts as stones fall from the sky.

Was it Buglio and Magalhães, my nearest fellows but also my most vocal critics, who sold me out? For they've done more than just utter harsh words about my Mandarin status at Shunzhi's court in the past. In private they had accused me of being a servant of a non-Christian emperor.

"You are instrumental in the dissemination of his idolatry," a gangly man named Buglio said many times, always at the door of the Directorate, cracked open slightly.

It would be a lie to deny it. We've presented celestial patterns and forecast anomalies. We devised calendars and chose dates and sites suited to state rituals. Astronomical data provided with the help of *xiyang yinfa*, "A New Method from the Western Ocean", was mainly used to establish the calendar of lucky and unlucky days for imperial ceremonies. All these calendar entries seemed so trivial now: sacrifices to Heaven and Earth, peasants dancing around bonfires, members of the imperial court fucking their wives or concubines, all of it carefully planned and designed well in advance, in complete accordance with our celestial time scheme.

I couldn't remember what kind of day it was on this wheel of fortune when I occupied the cell along with three other Jesuits and five Chinese converts. The square space of our confinement was furnished with cruciform wooden pegs of various heights—our hands were tied to metal chains, three around the neck, three on the arms, and three on the feet. They pierced through the wood and served the same purpose on the other side. The regular meek movements of my fellow sufferer's arms, whose slender body was as unequipped for the fusty manacles as mine, were in the service of some ancient method for telling time. In the darkness there were no Archimedean points onto which one might hook his sense of passing time: but Buglio's short tugs (or was it Magalhães'?) imitated unknown ancient

rhythms, as they appeared only when his body felt the urge to move. Buglio was conversing with Verbiest on potentially life-saving manoeuvres, mostly in the form of tepid sentences, citing *The Book of Numbers*. Magalhães was quick to reply with a shallow “not important.” I heard somebody say my name.

“Schall.”

Adam Schall—often Schahr—the head of *Qintianjian*, the Directorate of Celestial Surveillance.

The words resounded eerily in my head, but I couldn’t bring myself to answer. Since the unreasonable accusations that led to my arraignment after the death of Shunzhi, my mouth refused to utter anything in my defense. Anything sensible, that is. The only thing that I was capable of doing at that moment was chanting in syllables, a string of repeated *la*’s or *ta*’s, but I was well aware that this kind of ribald scansion might corroborate further allegations at the court, providing new evidence for the fact—as they saw it—that I caused the premature death of Shunzhi, the first Emperor of the Qing Dynasty, by casting a spell on him. My mouth had become an orifice which could no longer preach. I looked up as the talk was becoming too distracting.

The negligible window on the southeast side was facing another wall. Its only purpose—but sadly to no avail—was to provide us with fresh air. The daily evacuation of our bowels was withheld in our thick robes. My fellow inmates’ round-collar robes, all black with a few grey stripes, grew paler in the past few days. Our *wu sha maos*, black cloth hats, were thrown away, stacked somewhere or burned. I was the only one stripped of my clothes. Violet and decorated in minutest detail, with a depiction of a white crane in a small square on the chest, they must have reminded the jailors of my Mandarin status. I was given an old grey cotton robe. The weight of the day was pressing me into sleep. That night I dreamt of the firmament.



**THE QUINCENTENNIAL CELEBRATION OF THE EVENT
WITH NO INTERCALARY MONTHS**

“Lun,” I uttered quietly in a dream.

We must have been hundreds of parsecs from where I last said anything aloud.

Parsecs? The dream was boisterously playing games with me. I felt it as being *far*, but the distances were unrecognizable. The words poured into my speech, unrecognizable, alien, falling like tiny primordial debris from across the Kuiper Belt.

The Kuiper Belt? It was slowly becoming a language issue on a monstrously large scale. It was the same amount of parsecs from where I last saw anything with my eyes. Every time it felt *as if* I were reborn. Reborn more than once? But why would I want to be in a simulation of a Buddhist nightmare?

It has been more than fifty years ... *fifty*? Certainly not measuring from where I was now, since our order in China changed its wardrobe from modest grey robes similar to those of Buddhist monks to ones resembling those worn by the *literati*, the Confucian scholars. We underestimated the power of the social ladder back then—we were talking to the wrong people. But I had a hunch that this setting was different from the one down there. And that the social ladder had other implications here. Or maybe not, on second thought.

“Lun,” I said again, this time with more strength, clearing my thoughts. I was expecting a “yee-ha!” or some similarly silly response. Lun was, after all, a shameless marketing manager in his Earthly life, and could turn just about anything into some kind of hip, up-to-date, often politically incorrect joke. But I felt that my greeting was itself strange: damp at the sides, it felt like a heavy lump in my throat.

There was no answer. I looked at the wide plasma screen which shared a constant influx of data about the inevitable outside.

“Are we stationary?” I was able to say somehow. No matter how surprised I was by the words and the meaning that came out of my mouth, there was still no answer. Stationary where? How? The doubts came flooding back. Lun was the name I overheard when the jailors were calling each

other. He must have been one of them. Could it be the one with dark skin? Or the one with the club hand, brandishing a small scourge in his other hand?

But I wasn't in the cell anymore. And my neck refused to rotate my head in any of the possible directions. Something was telling me that my body was different, but my eyes were still fixated on a certain point on the screen. It must have been just a million-light-year dream, in which we slowly passed the red dwarf stars, protoplanetary nebulae with approximately half the speed of light, stacked into a *copyfile*, auto-saved by a mute AI operator ... a space where we were *technically* not able to dream or exist. Did any of the numerous, time-crystal based measuring devices save any intel on that?

For fucks sake, I won't even go into—

Being stationary. That must have been a joke. It was always the two of us up here and there was *always* an answer. A human voice filled the void and it served as a companion to my resurrection. Without it, it may well be that all my past memories were just a dream.

But whose dream? The one captured in a sterile box or the one trapped in the Chinese cell?

Crawling along the grid-like structure of these thoughts felt like cold winds blowing in a certain childhood, mine perhaps. The Rhine was shimmering and heaving beneath the brisk breeze. When my parents died, I went to live with my maternal uncle in a nearby city. Cologne was known for its faint jerks of wind, which I first noticed when they passed over the tiptoes of my bare feet and then rose to the height of the cathedral's crane, sitting just above the belfry.

The slow embrace of the cold was akin to a momentary contagion of inapprehensible words. They came in muddled swarms, noticeably lacking leadership. The vocabulary was opulent, but in its arrogance beggarly at the same time, the structure uninnovative, in a weird conjunction with meaning. But the thing was—apart from the abstruseness of the *language*—that the *joke* was already a part of the question: we were *never* stationary. Forget the stories of populated stations in the Oort cloud. That's proper bullshit as far as I am concerned.

We respawned in a cage, buttressed by space material, harvested on the way by swarms of nanoglidors. Organic waste and other convenient particles were caught for later use. The Bubble, as me and Lun affectionately called it, had no windows and was the bitter fruit of an Earthly scientific revolution that left little or no space for emotions. The interior was dark, illuminated by a few invisible light sources. The walls were rough, as in a karst cave where rock was dissolved by acid. The Bubble seemed to be different with every completed Leap, but always similar in size and construction. As if some rough blueprints allowed for unforeseeable constructional improvisation.

The outside sounds, reminiscent of distant hail storms, were muffled by the Bubble's thick walls. And there was a whole system of nanovehicles guarding the mothership. We never felt any of the impacts. We were sheep in a church and our shepherd was an AI-driven cathedral, laicallly referred to as the Bubble. The outside was dark and vast, with P- and C-type asteroids, sungrazers and icy comets, with supermassive black holes, where everything is an infinite mess, where everything is suffering. But inside the cathedral the reign of chaos stops, it is chastened and cut, made to fit. It is said that the medieval cathedral adopted the outside, with the squire's vivid colored pants becoming gold and ruby stained glass, the jester's jokes becoming the ringing of bells and the ogival arches the feet of children at play—but in the Bubble all is sublimated in the oversensitive curves of the pseudo-natural world: the cave, the womb, the anus. There are no flying buttresses caressing the link with the outside. Just a clear and visible cut between the outside and the inside. The silence here is as overwhelming as it ever was, you know? When we can sense it, that is. Most of the time our consciousness was just stored on a radiation-safe glass substrate.

I could not move my body straight away. Constituting a body during a Great Leap phase is different than just being born again. Where are the Buddhists when you need them, right? We are born anew every time: *constructed*, 3D bioprinted. All our muscles are in their adult shapes when composed. The sheer idea of moving exists, but it is just that—an idea. The body stays put and it takes eons for it to be able to budge. First there are convulsive, but rather conservative twitches. I think it's our eyes that first become aware of the surroundings; as retinas react to

light, saccadic movements occur. Then fingers, hands. It took some time for me to turn my head to my right.

I saw a condensed ball of ... what? No organs, no real body. It was like a miniature coral reef which started to grow into itself because of a lack of space, the much needed principal condition of life. It grew modestly and its tentacles distorted into its mouths, it breathed through the outwardly wrenched stomach, which was so airy and transparent that one could easily see through it. But at the same time it filled the space up to the tiniest particle.

I saw it looking at me. But with a stiff mouth, as if it were filled with cotton balls, a reply was not as simple a proposition as it seemed.

“Lun?”

Not so much as a grunt came my way.

**INTERMEDIATE PHASE OF THE ENORMOUSLY IMPORTANT EVENT AT THE
DIRECTORATE OF CELESTIAL SURVEILLANCE, 1665, MARKED BY A
CERTAIN AFFINITY FOR SPIDERS, IN THE YEAR OF THE SNAKE, AND
WITH THE SAME AMOUNT OF INTERCALARY MONTHS**

“Lun,” I wanted to repeat, as in a dream, but my mouth refused to speak.

I woke up sore and stiff, with fluids circulating through my body like the insufficient yellow slugs that slowly gyrated around my legs. I envied their invertebracy: they twisted their figures like male dancers in a Beijing opera, swinging their ribbon bands with undulating gestures. The Chinese jailors must have been gobstruck by the exiguity of our postures, the at-first-sight-chaotic organization of our bodies in a tiny cell: we were Tycho Brahe’s comets, stuck in the first celestial sphere, among the planets. Like the birds in the air and the fish in the sea. And when I say *gobstruck* I mean this: they do not know a thing about geometry, how would they be able to distinguish between the theoretical possibility of a body in space and its particular emanation? And we were like asteroids, tearing down the old moral cosmology rooted in the old books and presuppositions.

Their eyes were carefully following our movements through the opening in the wooden doors. They weren’t studying us. But did they know that our times differed significantly? That we’ve lived in different time zones? That our lives passed through different time loops? That the Bubble was not assigned the same time zone as the outside? Reissner-Nordström geometry played no serious role here. What was that? Was I in another dream or was I back in the cell? I shook my head in dismay. The words once again became familiar.

It was a fact that the *literati*, the Confucians, treated calendars carefully, seeing an intimate connection between the astronomical, natural and socio-political orders. The Emperor was the great mediator between the three, the central figure connecting them all. Was that why the Muslim mathematicians played such a large role in the Imperial City? Could the Uyghurs be the ones that betrayed me? They were planning something and had been trying to undermine my data for a few years now. Recently, but well before the imprisonment, Abudukelimu, one of the senior Muslim astronomers from the Directorate, visited me at my home. His steps were flint-hard and his hands close to Guangxiang’s, almost contiguous with them.

With a touch of discomfort we all took a seat outside. Camellia flowers were dangling in the breeze. Abudukelimu had a distant look on his face.

“That spider,” he began by evoking the old Persian tradition, contra-Aristotle, “climbing up a shrub, will finish making that web.” I nodded. The brown spider with white stripes was tripping the light fantastic on the branchlet, producing a web which resembled the thick mists of Lake Baiyang. It had finished the horizontal threads and had started to construct a narrow funnel in the corner, semi-hidden beneath the leaves.

“But,” Abudukelimu continued, “its walks upon the leaves, its slow movements were never in its direct domain.” The spider’s sideways movement on the sheet of web was hectic and visibly confused. Obviously finished with the task, it hid in the murky funnel.

“On the contrary, its future was in the hands of God’s will.” Being a man of God myself, I wasn’t pleased with Abudukelimu’s reasoning. It wasn’t only religion that was tearing us apart. Our lives were strangely positioned in times of discrepancies, plagued by Brunos and Galileis, those same heretics who, unfortunately, would later become our teachers, depriving us of a straight line upon which our thoughts might freely reign. We have calculated, but we have not always understood. We *couldn’t* always indulge in that.

“You may have heard of a Croatian bishop and innovator,” I said as I turned my head toward my silent Chinese companion sitting squeezed between the table and the outer garden wall.

“His designs and ideas are presented in Schreck’s *Qiqi Tushuo*, published just twenty years ago: an attempt to present the Chinese with European mechanical knowledge.” Guangxiang gazed from under his eyebrows with doubt.

“Fausto Veranzio,” I nodded to my Uyghurian colleague, “designed a parachute and jumped with it from the campanile of St. Mark’s in Venice.” Abudukelimu’s eyes were gleaming with interest. The names, the places, the words. They all must have sounded so strange. Although I knew he came with different aims, solemnly trying to preserve his long-lost importance at the Imperial Court with the help of Guangxiang, his gaze inevitably revealed an infantile need for knowledge.

“He survived,” I added, hiding a smile. Nothing a fly, ensnared by the spider’s web, could hope for. It was pulling in several directions, trying to free itself from the silk threads, carefully placed horizontally and vertically. The cunning design made up for its lack of adhesiveness. This kind of web had to be transposed, in several mutations of the spider’s brain, from a normal two-dimensional adhesive trap to a spatial labyrinth akin to Daedalus’, but it was erected with much more elegance: the straight passageways from the ancient myth became tubes, the walls soft cushions. But the spider stood still. His master plan worked—but did he even notice? Was he trying to connect with God, but the lines were busy?

I wasn’t even trying to pretend that Abudukelimu might understand that. It was a far cry even from what I could decipher at that point.

“But did Veranzio actually jump without knowing what would happen to him?” I continued, literally gathering my previous thoughts. “Wouldn’t that make him, a devout man of the Church, a bishop even, a would-be-suicide, in the last instance a sinner? Wouldn’t even the tiniest sliver of the possibility that he might die by his own hand—wouldn’t that be enough to make him reconsider his actions? Or was he confident enough that his parachute would safely bring him to earth that he knew there was *nothing* that could make him fail?” Abudukelimu and Guangxiang tried to reply.

“That his landing was as sure as was his life?”

It took one second for the spider to grab the fly and take it back to its retreat. The web was generally still, only slightly shaking at the ends. The spider started to devour the poor thing. Or was it the web that had to do the dirty work, with the spider transformed into its prosthesis?

“The results were as certain as the existence of the Kuiper Belt beyond the first orb.” I recalled that word, but I couldn’t decipher the meaning. Unknown phrasings came like bolts of lightning, but the sentence was fine: that abyss, hanging in the middle of it, felt somehow natural.

“The Kuiper Belt?”

Not an echo of my thoughts, but the sound of Guangxiang going wild about it. Stretching out his hand, it seemed as if he wanted to stand up quickly. I leaned back slightly.

Perplexed by my own words, I would be an easy target for the two. But how could he know about the Kuiper Belt? The mush of meaning slowly thickened: the circumstellar disc, primordial debris, far above the firmament.

Guangxiang's face turned red. Only then did I understand the hostility: Guangxiang had a feeling he was under attack for his ignorance. Abudukelimu tried to shake it off with a slight nod of his head, the way people try to act blasé when they don't know what's being spoken of.

The spider's web was swinging as the light breeze started to blow from behind the corner of the house. The conversation continued in an orderly manner. Both Guangxiang and Abudukelimu slowly left. But my mind went astray. Whose incompetence did I encounter? Mine or theirs?

The feeling was later mirrored in my imprisonment. Was there anything I could do, stuck in this cell, with no serious arguments to counter the death sentence?

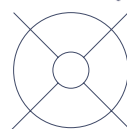
The Chinese jailors were having a laugh at our sorry silhouettes. Little did they know about my dreams. Their debates were morose: Are they going to hang? Or will we butcher them until they bleed to death? Only later Verbiest, the closest of my associates, who was also nearest to me in the cell, assured me that they were trying to be friendly.

Friendly? We transferred our demons and fears into myths. Our myths into bedtime stories. Dreams followed suit. But these simple minds, holding the keys to our freedom, juggled death as they went along. Verbiest—my dear Verbiest—declared that they wanted us to *know*.

Oh, Lord, what were all these thoughts, thick as a spider's web, devious as Theseus? What was I in this game? The spider or the fly? Was I either? What form would I occupy next?

I had to close my eyes.

The firmament was soon to emerge.



**LAST ROUNDS AT THE QUINCENTENNIAL CELEBRATION OF THE EVENT,
STILL WITH NO INTERCALARY MONTHS**

Emergency signals started to cram the space; their sounds were familiar, their warnings dull.

“Lun?”

At this distance from Earth all we had was speech, that disfigured mechanism of mnemotechnics that let us down every time: on our death beds, listening to a bird’s song, fucking. It is never eloquent enough, let alone adequate. Lun and I have been around since forever. When we left, the Earth was as it had always been: teeming with politicians’ feuds and small-scale tactical wars, rapidly being depleted of natural resources, encircled by the same old philosophical debates.

And we’ve been losing the remnants of speech at an alarming rate. Did we ever possess speech, though? Was it ours to begin with? The terabytes of collected memory retained nothing of our former selves. The piles of reiterated thoughts and cul-de-sac conversations were flitting through us. We had been promised immortality: what we got was a void filled with blabber—at some point the differentiation stops. It doesn’t take much. Nothing more than a joke, to be honest.

I haven’t seen Lun like this before. And I’ve seen him a thousand times. Every time rebuilt and brilliant as ever. The jokes we were building from the last time remained stored in our storage devices. We believed they were still brains. But I knew the end was imminent. The lights were just a blank warning for us: the other, non-human part of the team was already abandoning its previous positions: nanoglidors started changing course, the machines copying data from our memory.

The Great Leap this time was slow and degraded. Not what we, rudderless, long-distance-guinea-pigs, actually expected. But we’ve chosen immortality. We just didn’t know that it would be worse than death. A point of rupture always followed these procedures. It never felt like a clean cut. The Bubble was still on course, slowly losing the energy provided by the solar cells; the copying process halted, the storage devices were safe, the nanovehicles dispersed and went on to another mission.

The Great Leap was over. Consciousness, at least some part of it, was on its way to another destination, data from the mission stored in quantum computers. And my memories are, from now on, entirely my own. Particular and

never to be thought again. Derived without any linkage, with no uncertain past and a doubtful future.

I might have felt cloistered before, but now—I was just ... *unplugged*: from machines, from solar systems, from ideological premises. The feeling of losing that dangling Damocles' sword was nothing short of spectacular.

But still only a spectacle, designed by some unspecified medium.

Was it the mind? But which one was the right one? The one that left or the one left to die?

“Lun?”

Our ride in the Bubble grew rougher by the minute. The security system left us to our own devices. The pressure began to rise, as did the temperatures. I had to take him into my arms. It was the least I could do.

Lun, the unlucky one. His days must have been a mess down there. I remembered mine with a certain affection. The kittens I fondled. The people I will remember forever. Every Great Leap once again inscribed them—their actions, their disbeliefs—into my thoughts: never to be repressed, spilled all over with Freudian ink, but with no couches in sight ... empowering the trauma to last until the end of the universe as we know it.

I still remember how people longed to occupy the first probes which left Earth with no designated purpose. The rows of faces queueing along the improvised metal railing at the Directorate. Many looked as blank as the faces on coins. Others were smiling through gritted teeth, even though no one was ordering them to launch. After hundreds of years this Kenyan safari got boring, I guess. The first space capsules headed into the unknown mostly plunged headlong into the sea. The space competition was fierce, but the technology lagged behind. The sheer need for capital convinced legislators to turn a blind eye. India and China were pumping out launch sites, converting old Soviet-designed, locally built ICBMs to carry people. But the first space travellers were flying directly into Žižek's asshole of the Real. It must have been an act of irony from God that the initiator was none other than Žižek himself. You know, Žižek? He was the one who triggered the debate on space regulation. Back at the beginning

of the 21st Century he wrote an article called “How the Right Deregulated Outer Space”. And some centrists took him seriously: space travel became regulated and space trajectories were nationalized. Only then did we go up. Lun ditched his wife, I left my marine laboratory, all for the glory of our nations.

Yeah right.

Nobody knows what happened to those creeps who prophesied about our flights.

Lun’s exterior skin was like manta’s rough trunk, devoid of color. Sitting on my lap, I couldn’t really tell if he was alive or not. And frankly I had no intention of taking a closer look. Setting boundaries between life and death was getting nonsensical: my double was gliding her way through the universe and I was sitting here, slowly being devoured by the outside.

We have always thought of the outside in terms of spatial organization. It was this place behind the walls of a Bubble which was now shattering as its body succumbed to abrupt fissures.

A ball, a bulk, a Lun. It started falling apart too. Strains were getting wider. The inside was on the outside. Or was it the other way around? The outside infested the inside just to enable it to let go of any significant sutures. Its provisional excrescences reminded me of triangle-shaped fins. It was as if it were flapping in mid-air, seeking some support to prolong its acts. Thousands of relapses left me without my body. Or was it new, every time anew? I forgot about my monthlies. No stomach cramps. I was made a perfect unisex space traveller. The problem was that I was thousands of years old.

The joke this time is on me, right?

I wanted to say Lun, but only grunts came from my mouth.

“Grr?”

**FINAL PHASE OF THE ENORMOUSLY IMPORTANT EVENT
AT THE DIRECTORATE OF CELESTIAL SURVEILLANCE, 1665,
IN THE YEAR OF THE SNAKE, AND STILL WITH THE SAME AMOUNT
OF INTERCALARY MONTHS**

“Lun!”

I heard the name among vociferous shrieks. The walls of the cell were trembling and screams were heard from afar. They were joined by an emotionless collective fear, merged seamlessly with constant expectation of an end. Tepid cobwebs were trembling and the few imperceptible spiders hid in the obscure corners of the room. I couldn't say if they anticipated the earth shaking before any of us did. The surrounding chambers were quickly emptied and in a short time the only sounds heard in the prison were those of the prisoners. The buds outside were hurrying to open. But we hadn't seen any of that. We supposed it to be true. By then the seismic waves stopped.

The planed timber above was changing into the rough undulation of some coal-black material that reminded me of precious metals. Something was coming between us, like those dreadful creatures I saw breaching on my voyage to China. Few understood it as an error and their words followed suit. Verbiest was semi-hidden behind Chen, one of the converts. Fleming was trying to loosen the wooden pegs, but his muscles were tired from weeks of being in the intermediate position between standing and sitting. At first he reacted with ignorance, but his actions revealed an inveterate fear, which resulted in his attempts to break free, like a bad piece of software parsing through its programmed scripts, ignoring serious flaws and capturing itself in an endless loop.

I heard one of the Chinese prisoners a few cells away screaming for help. Then I heard the first footsteps since the shaking. The jailors started to mess with the wooden structure, I could hear the sobbing of the workers, and a few hours later the doors, which somehow stayed put during the earthquake, finally opened. I raised my head, but it wasn't Lun. I wouldn't even have recognized him. It was a Mandarin in a shiny robe who entered the dirty and smelly space of our confinement, only to find us scattered on the battered ground. Buglio and Magalhães were the first to hear out what the Mandarin had to say. He was enunciating accounts of an earthquake which destroyed a good part of the prison complex. Most importantly, the tract where the execution was to take place was levelled to the ground. The timberwork fell as if it were made of thatch. It would take months to build it again. It seemed as if he was apologizing to us. He silently added that there were some sightings of a strange meteor traversing the spring sky.

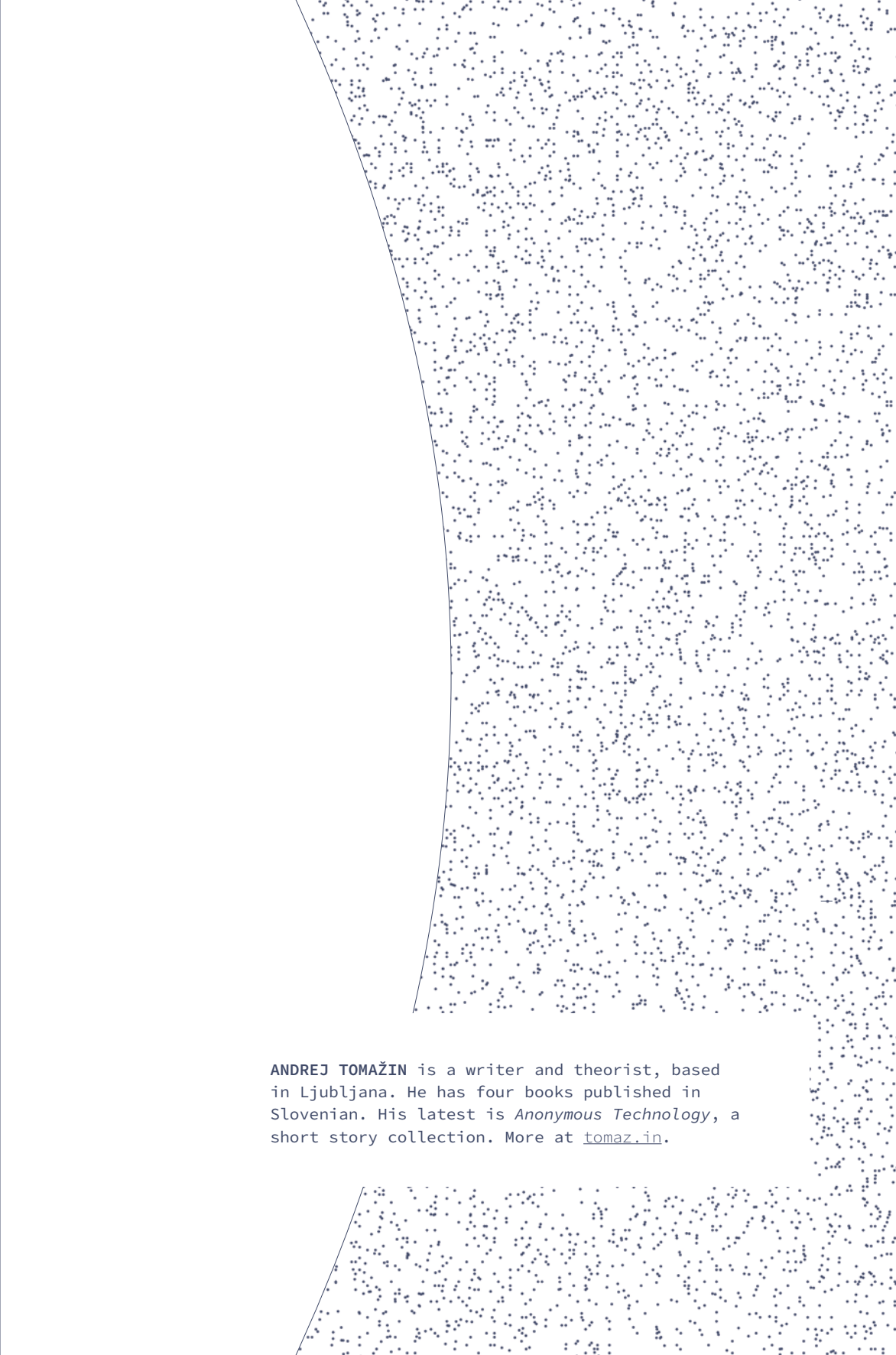
Hands were slowly moving beneath the cell's ceiling, legs were pattering as if in pain. He thought we already knew. He was *sure* we knew—we were just waiting for our secret computations to be executed.

Twenty years ago I presented the calculations of the true motion of the sun and the moon to the Imperial Court for the first time. Intercalary months occurred because there was a discontinuity in the motion of the sun across the Zodiac signs due to the use of a non-Gregorian calendar system. With every calculus they were fewer, but the people remained true to the old ways of telling time: 365 days to a year just wasn't experienced the same way. And it wasn't a question of superior or inferior instruments, or of detailed calculations and the arguments between the Old and the New Astronomers. Had we been too firm when we introduced the calendar system? How many generations does it take for people to change the time?

And then there was news of a fire, the final blow for the disheartened messenger. The scheme was almost perfect: the three rooms in the Imperial Palace which served as a courtroom and where our death sentence was read caught fire and nearly burned to the ground. The Mandarin signalled to one of his nearest jailors to free us from our fetters. The procedure was lengthy. Our bodies were laid on the floor as shards of broken mirrors, as motionless maritime animals, drifting the ocean. We gathered slowly, helping each other as if this were a common nuisance. The last sentence the Mandarin spoke was that we were to be exiled back to Macao. As we were walking out of the cells, we saw five Chinese converts being taken into the provisional strangulation cell. They were stripped naked and examined. The earthquake was a sign, that's for sure. But we took the joke too far.

I took one last look as they were carrying my feeble body through the narrow passage. My heart started beating too fast and the mechanics of breathing couldn't follow. I saw that familiar face, monstrosly folded in pain, leaning on a clapped-out doorjamb. I must have seen it a thousand times.

It was Lun.



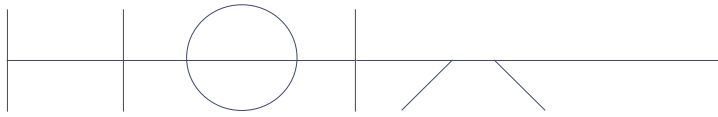
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**Unidentified Gliding
Object:**

**The Day the Earth
Was Unmoored**

REZA NEGARESTANI

— 1. VON HOFMANNSTHAL, Hugo, *The Whole Difference: Selected Writings of Hugo von Hofmannsthal*, Princeton University Press, 2008, p. 78.



I KNOW NOT HOW OFT THIS CRASSUS WITH HIS LAMPREY
ENTERS MY MIND AS A MIRRORED IMAGE OF MY SELF,
REFLECTED ACROSS THE ABYSS OF CENTURIES.¹

— 2. THOM, René, *Mathematical models of Morphogenesis*, Eliss Horwood Limited, 1983, pp. 273-276.

Approximately 541 million years ago, an explosion took place on this planet. Yet it was only an explosion in the sense of the vast time scales. For homo sapience, however, all such spans are the time immemorial. Over eighty million years from the onset of the Cambrian explosion of life forms, simple cellular organisms began to diversify at a relatively rapid rate. With the evolution of the first vertebrates, a new explosion far more powerful was triggered. This was the catastrophe of neurulation, a key morphogenetic dynamic process that transformed primitive neural plates during the embryogenesis into a neural tube via a series of foldings. The said event in turn paved the road for the emergence and complexification of the central nervous system, or what René Thom has dubbed “the organ of alienation”.²

The primary task of this organ was to enable organisms by equipping them with sophisticated means and strategies for survival and reproduction, fight or flight, predation or escaping an imminent threat. Vertebrate organisms could now develop a sustained sense of wakefulness or vigilance by distinguishing themselves from what goes on around them. The attainment of this sense of wakefulness was itself the result of the unconscious—i.e., below the threshold of the global workspace—processes of the nervous system to simulate a sense of a bodily integrity. This sense of integrity is often associated with the formation of a rudimentary ego, a non-conceptual subjectivity which is neither stable nor permanent. Characterized by its sheer automatism, it can shift from an integral mode to a disintegrated one, from fixity to flux and vice versa.

The rudimentary ego is what can be called an adaptive simulation of the organism of itself and of the immediate environment. Primarily, this ego which is a merely a computational spatio-temporal simulation generated by the nervous system creates a sense of discontinuity for the organism, enabling the organism—in a metastable dynamic way—to identify itself with itself as opposed to the environment. But when the survival or reproduction-oriented interests of the organism are piqued, this self-identification undergoes a drastic change and is destabilized. The predator identifies itself with the prey. It becomes the prey itself so as to successfully complete the hunt with maximum efficiency. This shift from the ego as the self to the ego as the other can be expressed by the same diagram that portrays the underlying chaotic dynamic of a double pendulum. The predator-prey interaction, the transition from the predator's identification with itself to its identification with the prey is not a stable back and forth swinging between the self and the other as in the movement between the poles of a simple pendulum.

The predator makes the prey a prosthesis of itself. The movement of the prey becomes the movement of the predator after going through sufficient dynamic translations. Just like the double pendulum in which the second pendulum is attached to the first one, the prey becomes the extension of the predator in a unified system that displays strong sensitivity to initial conditions. The chaotic behaviours of the entire system allow both the predator and prey to temporarily dissolve the hard distinction between themselves. In the image of the prey, the predator finds the most efficacious expression of itself; and in the image of the predator, the prey finds its most cunning and unpredictable expression of its own ego. This suspension of the ego as the self continues until one of the poles is destroyed, either by the successful accomplishment of predation or by the successful flight of the prey. Once the unbalanced ego finds its originary stability, the organism returns to its alienation from the environment until a new interest excites its positive alienation or dissolution back into the environment, becoming once more undifferentiable from the environment or the world.

Yet there have been moments across the vast gulf of time when the aforementioned formula has become ingrained into the nature and shape of organisms in such a way that a particular life form itself has become a unified system for preserving and suspending the ego, being alienated from the environment and dissolving into it: an organism in which the other is already a permanent and non-amputable part. What does an index of life whose form intimates both the alienated—the abductee—and the alien—the abductor—look like?

Petromyzontiformes or modern-day lampreys are of a special interest to evolutionary scientists. This is because they are among the only surviving direct descendants of the ancient vertebrates. Their nervous system is the key for studying our nervous system just as the *Drosophila melanogaster*'s DNA is a concrete model for studying the genetic codes of species up to the human genome. Foregoing the interesting folklores about lampreys, let us turn to one of the curious aspects of those ancient vertebrates whose morphogenetic structure replicates the exact same oscillatory dynamic between stability and unbalance—the self and the alien—displayed by the rudimentary ego.

A vicious hunter and parasite, the arctic lamprey—when it does not burrow into the body of the larger fish using its peculiar set of hollow teeth from under which new teeth can grow, almost akin to a disk-like chainsaw capable of digging a hole in scaled armour—preys upon unsuspecting smaller fish by turning itself into their meal. The predator does not identify with the prey through the gesture of the transitory ego, insofar as it is already the perfect prey. The worm-like tongue of the lamprey ends with a bulbous tissue. When the lamprey extends its tongue, it does not immediately retract it like a toad. The tongue remains outside just as a fisherman's bait floats patiently in the water. The small fish is finally lured in by this wiggling exotic object, mistaking it for food. Once the fish bites the tongue, the lamprey retracts it. Known as lingual luring, this aggressive form of mimicry is peculiar to vertebrates such as the alligator snapping turtle, aquatic garter snake and the arctic lamprey.

The dynamics of lingual luring could very well be canonized in the history of horror stories, perhaps not from the perspective of the prey but from the view point of an impermanent ego whose function is now encoded in the biological form. Gliding over the orbit of the phenomenal self, the retractable ego remains afloat in the liquid sky like an alien that buoys the organism and beckons the unsuspected. It is only when this alien ego is contacted, when its mission is complete, that the shock of the alien becomes palpable. Faced with the true nature of the situation, the unsuspected prey recoils in horror and the predatory self regains its full composure, not even remembering that it was not *there* moments ago. It is the latter shock—albeit perceived by the predator as a moment of fulfilment—that reveals the underlying dynamic of the alien encounter scenario. When the alienating or the retractable ego is met by another ego that plays a role in fulfilling the interests of the phenomenal self, it abruptly withdraws, leaving the self with the false impression that it was a permanent self all along. However, in this dynamics, the permanent ego also generates the *alien effect*. That is to say, the ego gets the impression that there is an alien ego out there in the sense of standing against or in contrast with it. But this alien effect is simply the prosthesis of the self. It is, in short, the very retractable ego which temporally suspends or destabilizes the ego or the self whose impressions of integrity, stability and permanency were illusory to begin with. They were mere neurocomputational mirages.

What kind of organism retains its sense of wakefulness by becoming, in flesh, both the eater and the eaten, the subject and the object, the abductor and the abductee, the self and the alien? Thanks to the evolution of the nervous system, we are now in the domain of a series of potential events which plunge the ego into ever fuzzier categories of such distinctions.



— 3. DEACON, Terrence, *The Symbolic Species: The Co-evolution of Language and the Brain*, W. W. Norton & Company, 1998, p. 329.

THAT WHICH DRAWS IN STONE

For a language feature to have such an impact on brain evolution that all members of the species come to share it, it must remain invariable across even the most drastic language change possible. Though this might at first seem an overly restrictive constraint, it is an inevitable consequence of the very great difference in evolutionary rate between genetic evolution of affecting brain function and the speed of language change. Most researchers would agree that language change is likely to be many orders of magnitude more rapid than the genetic change.³

With the evolution of the nervous system, particularly phenomena such as neoteny and excessive cephalization in primates, we have slowly entered a new realm where the aforementioned distinctions between the self and the alien have become even more blurred. The advent of language and symbolic forms not merely as means of communication but as systems equipped with vast computational powers for the transfer, preservation, compression and manipulation of information generate a new catastrophe of alienation: a brave new nervous system. If the neurophysical substrate was once the organ of alienation and alienating, it is now language—in the most general sense—that begins to reformat the old sentient ego. It is the latest technology to refabricate both the alienated and alienating self, reinventing self and the alien in completely new horizons.

The primitive predator required a sense of constant wakefulness, which has now been replaced by language. The neurophysical wakeful ego can go partially to rest. The predatory vigilance of the old ego is not only transformed, but also taken over by language, particularly in its semantic and conceptual dimensions.

It is not hard to guess what happens when symbolic forms in their syntactic, semantic and pragmatic richness begin to interface with the old sentient permanent ego. The old ego is terraformed and mutated. Certain aspects of the old ego—particularly the self-alien duality—are persevered, but also undergo metamorphosis through both accumulation and transformations brought about by linguistically enabled enculturation. Myths begin to sprout. Myths which revolve around alien encounters, of angels, gods and demons gliding on the sky above, paying frequent visits to the denizens of the earth. But such myths—from an archaeological perspective—are peculiarly focused on aliens, not humans. From an evolutionary cultural perspective, it is not surprising that the first civilizations of the Fertile Crescent—the Sumerians, the Babylonians and the Assyrians—were well-known for two kinds of cultural exports: wars and dissemination of demons. Even gods as the guardians of the order of the cosmos and humans were specifically portrayed as whimsical demons. The cultural obsession with aliens flying over our human slum reached its pinnacle at the end of the neo-Assyrian empire when names of demons were so numerous that even priests could not remember or identify them. It was as if the number of distinct kinds of aliens active on earth exceeded the number of names we had for ourselves and the things in our world.

This demonic overpopulation, however, reflected a fundamental belief with regard to the nature of the human self, shared among the ancient Mesopotamian cultures. Demonic entities were not reflections of some sort of alterity or radical otherness to the human self. Rather, they were limit cases of vices and virtues of the ego itself, its dynamic potencies to be this or that self, its swerving elementary particles. The demonic overcrowding was based on this fact that the alien encounters and demonic possessions were nothing but the encounters of the ego with itself at its outer rims, with what it is not and what it can possibly be or become.



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— 4. BARBOUR, Julian, *The Discovery of Dynamics: A Study from a Machian Point of View of the Discovery and the Structure of Dynamical Theories*, Oxford University Press, 2001, p. 434.

THAT WHICH ESCAPES THE STONE

Profoundly aware of the fact that we and the earth, cut loose from the moorings, were adrift on the sea, he [Copernicus] looked about him for handy pieces of driftwood to make a raft. Being a very skilled craftsman, he chose and measured his wood with great care and added nothing to the raft before he knew that it fitted exactly. In this way he slowly extended the raft and, almost paradoxically, finished up with foundations of a sort of which Descartes never dreamed: secure, because taken straight from nature; and productive, because he also laid down workable ground rules for extending the raft – first measure carefully before trying to add anything, otherwise it is liable to fall off again.⁴

During the period of high scholasticism, cultural preoccupation with angels and demons—what Erich von Däniken would have called ancient aliens in spacesuits—went through a fundamental transformation that paved the road to the complete unmooring of the earth which was never a home for a permanent self in the first place. Magic gave rise to what can be called an experimental science. Using symbolic tools, the high scholastics could now use this magical universe as a toy model for a new mathematized world. But like all toys, this enchanted universe slowly cracked and broke apart when it was played against reality. The equations of motion slowly revealed themselves from the cracks formed by playing with this enchanted world *as if* it was real.

As mathematization of nature started to take root, the catastrophe became almost inevitable: the earth is not a projection of our permanent ego. The chain of physico-mathematical humiliations against the scholastic worldview reached its apex with Newton who, once and for all, abolished the difference between the heavens above and the earth below. The fundamental rearrangement of what was once deemed as a central perspective—a stable phenomenological ego who sees the stars at night—was a breaking moment for that supposed mooring that affixed earth in one way or another. The terrestrial slum known as the earth suddenly revealed itself as an alien spaceship drifting endlessly. The impact of this revolution that ended the distinction between the egocentric perspective and the alien viewpoint in physics was perhaps not fully appreciated until Einstein and then quantum physics fully unmoored the egocentric frame of reference. They replaced a central or fixed viewpoint/frame of reference with a mobile frame of reference—Élie Cartan's repère mobile—which could as well be called an unidentified gliding object. What the unidentified gliding object sees is not one world, but a world that becomes many as the perspective—the frame of reference—is deracinated and drifts with no end. The classical confrontation between the inside and outside, which allowed both a narcissistic projection of the human self-image onto the universe and the otherness of the cosmos, was cancelled in its entirety.



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— 5. HARDY, Thomas, *A Pair of Blue Eyes*, Wordsworth Editions, 1995, p. 172.

THAT WHICH RETURNS TO THE STONE

By one of those familiar conjunctions of things wherewith the inanimate world baits the mind of man when he pauses in moments of suspense, opposite Knight's eyes was an imbedded fossil, standing forth in low relief from the rock. It was a creature with eyes. The eyes, dead and turned to stone, were even now regarding him. It was one of the early crustaceans called Trilobites. Separated by millions of years in their lives, Knight and this underling seemed to have met in their death. It was the single instance within reach of his vision of anything that had ever been alive and had had a body to save, as he himself had now.⁵

Either the greatest humiliation or a universal acid, Darwinian revolution introduces yet another twist to the distinction between the self and the alien. As in the above quote by Hardy, the living self, once confronted with a life form turned into stone—a fossil—sees itself in terms of time immemorial. The encounter of the third kind happens simultaneously along two time arrows.

One, from the present to the deep past: I see myself face to face with a fossil. It is the alien which I want to be visited by, but it is also an alien who haunts me in my most arcane nightmares as a *third-person* view of myself turned into a dead thing, a thing that has been ossified as part of the natural history of the earth.

The other, from the present to the deep future: I see a fossil. But the fossil is no longer a signifier of the past. I see it as an image or a model of myself after it has undergone extensive spatiotemporal translations or metamorphoses; like how my progenies look like after I am dead. Every time I see this model of an ancient creature etched into a stone, I reinterpret my present image. An apposite example would be a future Artificial General Intelligence (AGI). We make the future AGI—that signifies the expiration of the homo sapience—in our own image, but every time we look at our own distorted image in the future—what we will become—we reinterpret our current self-image. In doing that, we become the very alien descendants that we only see in our wildest speculations about our future. It is as if the image-model regenerates its origin, the future baits the present.

The Darwinian revolution—the encounter with a life form that has turned into stone—can take place in either or both directions: from the present to the deep past or from the present to the deep future. Either way, the self or the ego sees itself in a deep time where the alien is no longer an alterity, but merely *this* self confronted with its image floating in deep time, gliding on the time-like ley lines, or what can be called pasts and futures.



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— 6. LINDNER, Robert M., *The Fifty-Minute Hour*, Other Press, digital edition, 2013, pp. 547-548.

THAT WHICH MAKES A NEW STONE

How can I explain this to you? One moment I was just a scientist on X Reservation bending over a drawing board in a clapboard BOQ in the middle of an American desert—the next moment I was Kirk Allen, lord of a planet in an interplanetary empire in a distant universe, garbed in the robes of his exalted office, rising from the carved desk he had been sitting at, walking toward a secret room in his palace, going over to a filing cabinet in a recess in the wall, extracting an envelope of photographs, and studying the pictures with intense concentration.

It was over in a matter of minutes, and I was again at the drawing board. But I knew the experience was real; and to prove it I now had a vivid recollection of the photograph and no trouble at all completing the map.⁶

Since the time Wilhelm Reich penned *Contact with Space: Oranur, Second Report* to the time when Jacques Vallée wrote *Revelations: Alien Contact and Human Deception*, there has been a fascination with an Unidentified Gliding Object (UGO). This fascination is not exactly about another alien ego from a different world visiting us—i.e., the scenario of the *arrival* of aliens—or the so-called UFO, but rather how we see ourselves as aliens: different selves or alien vehicles of thinking and perception gliding over the orbit of our old world-egos.

— 7. It is long rumoured that Kirk Allen was none other than Paul Linebarger, the godson of Sun Yat-sen, a top American diplomat in China, a high ranking CIA officer and the famed science fiction author, Cordwainer Smith.

8. Ibid.

A scenario of UGO where secret military operations, science fiction, schizophrenia and the departure of the ego from its old shell toward its new adventures as an alien is portrayed with unsettling ramifications and convergences, twists and turns is *Jet Propelled Couch*. A case of psychoanalysis reported by psychiatrist Robert M. Lindner in his collection *The Fifty-Minute Hour*, *Jet Propelled Couch* recounts the story of a pseudonymous patient named Kirk Allen.⁷ As a brilliant physicist working for a top-secret military project, Allen—a punctual and hard-working employee—has lately been missing his deadlines quite frequently. He is profusely apologetic about these incidents and promises to get back on track, but he never does. Finally, upon the insistence of his boss, he confesses that he has been living elsewhere and will really try hard to “*spend more time on this planet*”.⁸

An avid reader of science fiction, Allen has encountered something deeply strange. He has noticed that in some of his most favourite sci-fi novels, the protagonist is actually *him*. The lives of these protagonists are fragments of his own life—biographical details—which he has forgotten, but now remembered upon reading them. Like any good detective of the self, Allen begins a systematic task to put together these recollections—stories about the lives of aliens in different universes—into a comprehensive biography of who he actually is. In the process of putting together the fragments of his lost memories, Allen creates a multiverse of alien worlds in which he has been living all along. It is a multiverse where worlds have different measurement systems, where there are new colours, tastes, smells and cogitations which are not of this earth. An apple can taste blue, a distance between two points can be accurately measured based on some alien olfactory metric system and so on.

As Allen steadily reconstructs the world of his forgotten self, finding new evidences and filling the gaps of his biography, he is progressively drawn to an alien multiverse where the real Kirk Allen has been spending time. A rift opens up between the real Kirk Allen—the explorer of the alien multiverse—and the paper-pushing Kirk Allen who has been a fake and manipulated photograph of a UFO. To the rediscovered Kirk Allen, the earthly one not only seems extremely mundane but also a product of some terrestrial conspiracy theory concocted by humans and dark agencies. After all, who wants to be sitting behind a desk when he can storm the heavens?

— 9. GOODMAN, Nelson, *Ways of Worldmaking*, Hackett Publishing, 1978.

10. It is important to note that this scenario does not imply that for some reason emeralds undergo some form of physical change and hence their colour will be blue after t_n .

11. Nelson Goodman, Wolfgang Stegmüller and Adolf Grünbaum show in detail that the choice of green over grue is not a matter of the principle of simplicity. In other words, even Occam's razor cannot make a clear cut between green and grue.

Now let us flash forward to a hypothetical time in the future: how the evolutionary ego who licks the stone, draws in stone, escapes it and returns to it can make a new stone—a world in which the self finally sees itself as what it has been all along: an alien living in a multiverse, not a permanent ego, but a UGO who is both of this world and out of this world. We can call this transformed futuristic self Artificial Perceptual Noetic Entity (Apne). What is particular about an Apne has already been described by Nelson Goodman in his book *The Ways of Worldmaking*.⁹ Reality is not a thing but a system of constructions, or more accurately, ways of worldmaking, which are also ways of knowing the world: one world can be many according to its mode of diversification, and many worlds can be one according to their mode of integration.

We make reality by perceptual-noetic predicates called projectibles or projections. For example, we use and project a predicate like green. We say, all observed emeralds before a hypothetical future time t_n are green, therefore we expect all emeralds before or after t_n to be green. But there is a fundamental logical-empirical disjunct between what has been observed and what has not yet been observed. Just because we observe X in thus-and-so manner does not mean we will observe it in thus-and-so manner. Therefore, Goodman reinvents the old Humean problem of induction as a new riddle which is also a solution to the problem of making new worlds. New not in the sense that these worlds are registers of alterity or are radically disconnected from the old world, but rather in the sense of *world-versions*. Take for instance—reductively speaking—how a famous classical painting can look like if it is re-made by an Impressionist, a Dadaist, a Surrealist, or by a child using Microsoft Paint.

Goodman shows that we can have an alternative scenario: all observed emeralds are green before t_n , and blue and unobserved thereafter.¹⁰ Therefore, we can say all emeralds are *grue* (green and blue afterwards). *Grue* is seen as an unnatural predicate or projectible. However, it is only unnatural because we are perceptually and noetically (i.e., from the perspective of our sensory processing, linguistic systems and modes of hypothesization) habituated to *green* rather than *grue*.¹¹ But both green and *grue* are permissible. If we could dehabituate ourselves with regard to the use of the predicate green and instead could project the predicate *grue* onto the world, we could see all emeralds as *grue*. The

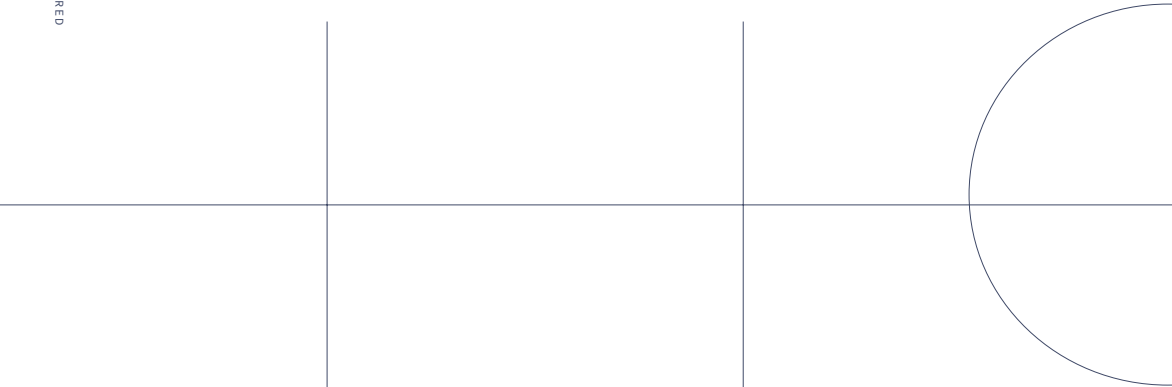
construction of new alien worlds, therefore, comes hand in hand with our capacities for dehabituating ourselves with respect to the use of the so-called natural or entrenched predicates which display the characteristics of our rooted perceptual-noetic poles.

This dehabituating process is already underway in the field of cognitive sciences, particularly Artificial Intelligence, where perceptual-noetic elements can be modified and reconfigured, for example, by restructuring the constructive memory or introducing new artificial languages with higher logico-computational capacities. From the elements of the old sensory-conceptual world, alien worlds of perception and cognition—new ways of knowing—can be made. These are worlds in which crows can be blite (black-white), the earth's sky can be bleen (blue-green), an apple tastes francid, and a stone feels sord.

The Apne—the new hybrid artificial child of the close encounter of the 7th kind—¹² can endlessly play with these toy-predicates by projecting them onto reality in different ways. As with a 1980s Lego kit for the Death Star, the Apne is not interested in following the *given* model and building a Death Star. It is more interested in making a dragon out of the available perceptual-noetic toy blocks, a farm, a spaceship, a throne suitable for the god that it now is. That which makes a new world in which all green stones are grue sees its old world from the perspective of an alien world. The Apne constantly goes back and forth between the old world and the new one, abducting elements from the former in order not only to create other worlds but also to reveal how fragile the earth-home was all along, exposing it as a fake report of a UFO.

- **12.** According to J. Allen Hynek's sixfold classification of the close encounter, the encounter of the 7th kind marks the culmination of the alien contact: the production of a human-alien hybrid through sexual or artificial means.

|
UNIDENTIFIED GLIDING OBJECT: THE DAY THE EARTH WAS UNMOORED

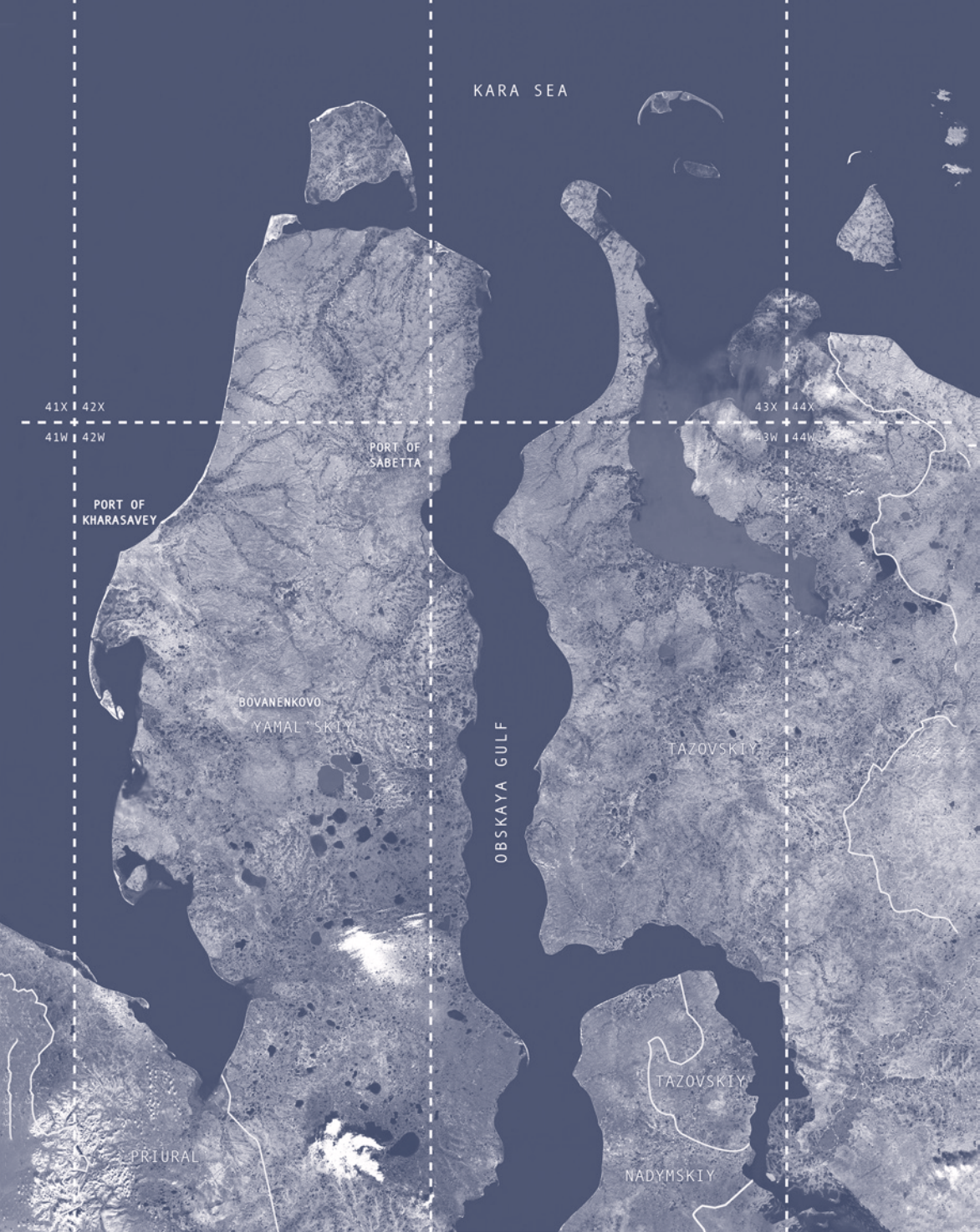




REZA NEGARESTANI is an Iranian philosopher and writer. His work includes *Cyclonopedia: Complicity with Anonymous Materials* (2008), *Intelligence and Spirit* (2018) and the upcoming *Abducting the Outside: Collected Writings 2003–2018*.

Yamal Events Report 2071

EDMUND BERGER, KEVIN ROGAN



RESULT: 42W-43W(PARTIAL/INCOMPLET)-42X-43X(PARTIAL/INCOMPLET)
 FOR ADDITIONAL INFORMATION AND HISTORIAL DATA, PLEASE ENTER CADASTRE-OBRG SS ID
 POUR DES INFORMATIONS SUPPLÉMENTAIRES ET DES DONNÉES HISTORIQUES, VEUILLEZ SAISIR CADASTRE-OBRG SS ID

YAMAL PENINSULA & ENVIRONS, INCLUDING PORT OF SABETTA
 YAMALO-NENETS AUTONOMOUS OKRUG FEDERAL DEPARTMENTS YAMAL'SKIY & TAZOVSKIY
PÉNINSULE DE YAMAL ET ENVIRONS, Y COMPRIS LE PORT DE SABETTA
 YAMALO-NENETS OKRUG AUTONOME ET DÉPARTEMENTS FÉDÉRAUX YAMAL'SKIY & TAZOVSKIY

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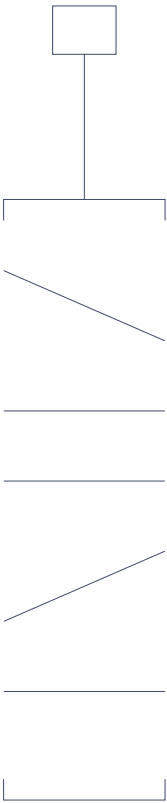


<EN>

The past year's events in and around the Port of Sabetta should give NATO pause, though they have doubtlessly worked in her favor. The Russian Federation's ongoing political crisis threatens to lead to a global collapse of legitimacy if not sufficiently contained. At this juncture, SACEUR has proposed an extensive re-evaluation in not just pacification efforts, but has also strengthened cooperation with key partners in a new theater of biological warfare.

The smallpox outbreak (along with other unforeseen circumstances) was successfully capitalized on by a large number of frontier political groups who, previously scattered and focused on petty grievances, were able to constitute an efficacious political coalition with violent aims, similar to the NAPR Popular Resistance Army (then "Kwela Nchebe Brigades") of the 8 Hours' War in 2036. NATO has long weathered an increasingly asymmetric world, and emerged stronger for it; but sometimes our past returns to teach us new lessons.

This document cache you are viewing now represents a windfall for NATO stability projection measures. Counterintelligence operatives were able to extract a large amount of raw text data from [x] server backups surrounding the Yamal events. The readability of these documents is minimal; they are not intended for human viewing and existed only for indexing purposes. That said, Operation OPEN EYE has been convened within both USDHS-CY and NATO/CY-OP as a joint task force in order to allow these documents to be reviewed by agency experts. OPEN EYE continues apace. Set your notifications for this document and CY-OP_GEN to be informed of the latest updates on OPEN EYE. Clearance level ACCEPT-CELEST NATO SS CGI [_failure-]



<FR>

Les événements de l'année dernière dans et autour du Port de Sabetta devraient donner à l'OTAN une pause, même s'ils ont sans aucun doute joué en sa faveur. La crise politique actuelle de la Fédération de Russie risque d'entraîner un effondrement mondial de la légitimité, si elle n'est pas suffisamment maîtrisée. À ce stade, le SACEUR a proposé une réévaluation approfondie non seulement des efforts de pacification, mais également d'une coopération renforcée avec des partenaires clés sur un nouveau théâtre de la guerre biologique.

L'épidémie de variole (ainsi que d'autres circonstances imprévues) a été exploitée avec succès par un grand nombre de groupes politiques frontaliers qui, auparavant dispersés et concentrés sur de petites réclamations, pouvaient constituer une coalition politique efficace aux objectifs violents, semblable à la NAPR « Popular Resistance Army » (alors appelée « Brigades Kwela Nchebe ») de la « Guerre des 8 Heures » en 2036. L'OTAN a longtemps traversé un monde de plus en plus asymétrique et en est ressortie plus forte; mais parfois notre passé revient pour nous apprendre de nouvelles leçons.

Le cache de documents que vous consultez actuellement représente une aubaine pour les mesures de projection de stabilité de l'OTAN. Les agents de contre-espionnage ont pu extraire une grande quantité de données texte brutes à partir de sauvegardes de serveurs [x] entourant les événements Yamal. La lisibilité de ces documents est minimale. Ils ne sont pas destinés à la visualisation humaine et ont uniquement existé à des fins d'indexation. Cela étant dit, l'opération OPEN EYE a été convoquée au sein des équipes USDHS-CY et OTAN/CY-OP afin de permettre à ces experts d'examiner ces documents. OPEN EYE continue rapidement. Configurez vos notifications pour ce document et informez CY-OP_GEN des dernières mises à jour concernant OPEN EYE. Niveau de jeu ACCEPT-CELEST OTAN SS CGI [_failure-]

=====
From: Elliot Esfahani
To: Viktor Cherepanov, Alexei Petrov
Subject: Progress Update
2071-03-02 19:37

Dear M. Cherepanov,

I'm writing to let you know that considerable progress is being made on the excavation of the burial sites. As of this evening, only site Alpha has been fully processed, but we hope that Beta will be completed by this time tomorrow. A formal report will of course be drafted and sent your way when this primary phase is complete; in the meantime here is what we know.

The dig at Site Alpha has uncovered a solitary funerary chest of an unknown type of wood. It measures 3.35 meters long, 1.38 meters wide, and 0.76 meters high. Within this chest were the mummified remains of two children and one adult: a male of approximately 6 years, a female of approximately 8 years, and a female adult of 22 years.

Site Beta has yielded far more, with three funerary caskets. The first of these measures at 3.22 meters long, 1.37 meters wide, and 0.64 meters long. Inside are two adults, one male of approximately 39 years of age and a female of approximately 35 years of age. Work has yet to start on two other funerary caskets, but the full details should be present in tomorrow's report.

Also worth mentioning - the level of preservation of the bodies, due primarily to the permafrost, is remarkable!

Best,
Elliot

=====

From: Alexei Petrov
To: Stepan Fridman
Subject: Re: Tambeyskoye Find
2071-03-05 11:26

To date, 4 burial sites have been found near the main Tambov oil and gas fields. Each of them is characterized by repeating elements: wooden graves made small as a result of melting permafrost, dating from about the end of the 18th century. What makes these sites the most unusual is that each grave appears to have been used for mass graves, with up to six bodies on the "site". According to Dr. Elliot Isfahani, who is currently observing the excavations, makes this anomaly the fact that the indigenous people of the Yamal-Nenets Autonomous district have historically demonstrated burial practices organized around the person. When asked about the significance of this, she told me that there could be "no reason other than those causing nightmares" why there would be a series of mass graves in this region.

Isfahani also added that a similar discovery was made in 2004 by a joint Russian-French archaeological group in the Siberian region of the Republic of Sakha. As in the case of Tambeyskoye, this grave included the bodies (5) family and has been dated to the late eighteenth century. It is important that the body has been shown to be potentially died from hemorrhagic episodes, triggered by a particularly virulent strain of smallpox. Because of the well-preserved nature of the bodies, Isfahani recommends that vector be notified immediately and quarantine protocols introduced prior to their arrival-this may seem extreme, but it's better to be on the side of caution. No need for another episode of anthrax.

=====

From: Alexei Petrov
To: Isaak Alban, Anatoly Temko
Subject: Re: URGENT
2071-03-06 04:12

Boss says we need to move forward on quarantine procedures. Let's start with color code orange in Tambov region. No quarantine, just blue for the rest of the Peninsula. Hu will lead round-up, so I suggest we have all the personal files and contact information for him when he arrives in Sabetta tomorrow morning.

Currently, a VECTOR team is flying from Novosibirsk to assess the condition of the victims to inspect the recovered bodies, which are currently on the ice of the Nadya morgue. Anatoly, you must meet them and escort them there - as soon as I have the flight arrival time, I will send them to you..

=====

From: Isaak Alban
To: Alexei Petrov
Subject: Re: URGENT
2071-03-06 04:20

I'm not sure what "personal matters" you mean.

>Boss says we need to move forward on quarantine procedures.
>Let's start with color code orange in Tambov region. No
>quarantine, just blue for the rest of the Peninsula. Hu will
>lead round-up, so I suggest we have all the personal files
>and contact information for him when he arrives in Sabetta
>tomorrow morning.

>Currently, a VECTOR team is flying from Novosibirsk to
>assess the condition of the victims to inspect the recovered
>bodies, which are currently on the ice of the Nadym morgue.
>Anatoly, you must meet them and escort them there - as soon
>as I have the flight arrival time, I will send them
>to you..

=====

To: Isaak Alban
From: Alexei Petrov
Subject: Re: URGENT
2071-03-06 04:22

Personal files of Tambov field workers and contractors present at the alpha site.

>I'm not sure what "personal matters" you mean.

>>Boss says we need to move forward on quarantine procedures.
>>Let's start with color code orange in Tambov region. No
>>quarantine, just blue for the rest of the Peninsula. Hu
>>will lead round-up, so I suggest we have all the personal
>>files and contact information for him when he arrives in
>>Sabetta tomorrow morning.

>>Currently, a VECTOR team is flying from Novosibirsk
>>to assess the condition of the victims to inspect the
>>recovered bodies, which are currently on the ice of the
>>Nadym morgue. Anatoly, you must meet them and escort
>>them there - as soon as I have the flight arrival time,
>>I will send them to you..

>>>[...]

=====

From: Isaak Alban
To: Alexei Petrov
Subject: Re: URGENT
2071-03-06 04:30

Alexey, there is simply no system of systematic accounting of the bulk of our main workforce. Maybe if you came here from time to time, you'd better understand how things work (or don't work, whatever).

I can get your files on the contractors. Let Hu know he shouldn't expect to easily

>The personnel files for Tambeyskoye field workers and
>contractors who were present at Site Alpha.

>>I'm not sure what 'personnel files' that you're
>>referring to.

>>>[...]

=====

From: Anatoly Temko
To: Isaak Alban, Alexei Petrov
Subject: Re: URGENT
2071-03-08 14:04

Vector's people will contact you in a few hours, but I thought you might want to hear it from me first. They say they have confirmed the smallpox / smallpox genome in bodies, with the length of viral threads suggesting intact viruses. Alexei, they're running tests, but they say it's probably transmitted.

They also found traces of iron in the lungs of several bodies. I'm not sure what this means, but the doctors are excited about 'hemorrhagic smallpox'.

=====
From: automatic.gprom
To: YOU
Subject: Daily Situation Circuit
2071-05-07 12:33

Report warning of ‘potential infectious diseases in Yamal permafrost’ suppressed by Gazprom, say critics



“Doctor Elliot Esfahani was working on this dig site, codenamed ‘Beta’, when she was taken ill”

ANNE FAULKES
BBC SENIOR MOSCOW CORRESPONDENT
7 MAY 2071

A report warning of “potentially infectious diseases buried deep in the Yamal permafrost” was suppressed by Gazprom to prevent investor uncertainty in the region’s developmental megaproject, say members of Friends of Earth Russia, the Russian section of the international environmental watchdog group.

Rumours of the report had begun circulating in April, when it became known that the Yamal Peninsula was the site of a smallpox outbreak that has now claimed the lives of 332 individuals. The source of the outbreak were graves, dating to the late 1800s, that were uncovered by construction workers.

The report in question was allegedly drafted in 2064 by a team from Oxford University led by Nick Brenner, an American 'existential risk analyst'. According to those who have reviewed its contents, Brenner warned that the Russian permafrost was "a veritable melting pot for incredibly dangerous pathogens, those both known and unknown". Brenner goes on to suggest that because of the positioning of the Yamal Peninsula as an international hub for the shipping industry, the situation "is nothing short of a looming catastrophe".

Brenner, who passed away last year, was "dismissed by Gazprom executives as a crank and charlatan", according to a former team member who wishes to remain anonymous. "The team felt it would be best to do seismic refraction surveys and geoelectric mappings of the entire peninsula to identify human and animal burial sites that could be hotbeds for pathogen. This suggestion was seen as beyond the pale. They sent us home and more or less squashed the report."

"If the allegations surrounding the Brenner report are true, this is serious cause for concern," said Didier Langlois, spokesperson for the French multinational oil-and-gas firm Total S.A. Total has been a major partner in the Yamal development project since 2017.

Among the known casualties is Doctor Elliot Esfahani, a French national. Doctor Esfahani had been overseeing the archaeological excavation efforts that unearthed the infected bodies after their initial discovery.

It is unknown at this point whether the outbreak will continue or if the international response has slowed its advance. Experimental vaccines are currently being used to treat the afflicted, and World Health Organization says it is "cautiously optimistic".

=====

From: automatic.gprom
To: YOU
Subject: Daily Situation Circuit
2071-05-23 07:42

Gunmen raid corporate office amidst Yamal crisis

ALAN CENRY

BBC MOSCOW JUNIOR CORRESPONDENT
23 MAY 2071

Russian investigators are probing an attack on Gazprom corporate offices on the Yamal Peninsula.

On 22 May, a group of eight assailants reportedly broke into a building owned by the oil-and-gas corporation Gazprom, tying-up, beating, and intimidating the people inside.

Who's behind it?

According to local media, the masked gunmen made off with computers and other important electronic equipment. Gazprom has yet to make a full announcement of the attack, though sources close to the company's leadership state the suspicion is on groups "disenfranchised by elongated time-table of the smallpox relief expert". The Yamal Peninsula is currently in the midst of an outbreak of hemorrhagic smallpox.

"There are allegations that vaccines are being withheld from the general public," the source continued, before adding that "such speculation is not only unfounded, but immensely dangerous."

Captain Adam Svoboda of the Yamalo-Nenets Autonomous Okrug Police Force, casts doubt on the suggestions that the attacks were carried out by common criminals capitalising on regional disorder. He reportedly told local media sources that the operation "appears to have been planned and executed perfectly, like something you would expect from a sophisticated military cell".

Russian state investigators are remaining tight-lipped, though they have told BBC that Captain Svoboda's scenario is exceedingly unlikely.

The only thing that's clear so far is that this story is just beginning.

=====

From: A. Petrov
To: A. Temko
Subject: Re: Keeping it contained.
2071-05-23 04:56

The contents of the hard disk are associated with an old report that we do not want publish. That's all you need to know. Mop-up should know even less

>Nice to know what permission my guys have.

>>[...]

=====

From: A. Temko
To: T. Pocijewski, H.Z
Subject: Re: Theft
2071-05-23 05:09

Attached is a list of the missing shit. Alexei is losing it - it is a mission priority. Let's keep this loop open but restricted. I'm buying drinks when this is over.

>[...]

=====

From: T. Pociejewski
To: A. Temko, H.Z.
Subject: Re: Theft
2071-05-23 05:11

That's what you said in Yakutsk! Tell Alexey that I'm still half deaf from this.

We already have some theories about what happened here. They were clever in planning, but stupid in execution, thus shooting at the ceiling. The caliber of such an ability could reach the peninsula through a very small handful of not so legitimate sources. Some of these people are friendly, so Hu says he will make several visits. Mop-up goes to others

>Attached is a list of the missing shit. Alexei is losing it
> - it is a mission priority. Let's keep this loop open but
>restricted. I'm buying drinks when this is over.

>>[...]

=====

From: H.Z.
To: A. Temko, T. Pocijewski
Subject: Re: Theft
2071-05-23 08:24

Nothing from friends.

>That's what you said in Yakutsk! Tell Alexey that I'm still
>half deaf from this.

>We already have some theories about what happened here.
>They were clever in planning, but stupid in execution, thus
>shooting at the ceiling. The caliber of such an ability
>could reach the peninsula through a very small handful of
>not so legitimate sources. Some of these people are
>friendly, so Hu says he will make several visits. Mop-up
>goes to others

>>Attached is a list of the missing shit. Alexei is losing it
>> - it is a mission priority. Let's keep this loop open but
>> restricted. I'm buying drinks when this is over.

>>>[...]

=====

From: T. Pociejewski

To: A. Temko, H.Z.

2071-05-23 13:14

Boys, this is a good day! Undocumented American arms dealers love to say when you beat them long enough. It looks like our militants live in a squat camp eight miles south of the Exchange, right by the bay.

SOBR brigades are ready, and VG specialists are flying airborne.

>Nothing from friends.

>>That's what you said in Yakutsk! Tell Alexey that I'm still
>>half deaf from this.

>>We already have some theories about what happened here.
>>They were clever in planning, but stupid in execution, thus
>>shooting at the ceiling. The caliber of such an ability
>>could reach the peninsula through a very small handful of
>>not so legitimate sources. Some of these people are
>>friendly, so Hu says he will make several visits. Mop-up
>>goes to others

>>>[...]

=====

From: A. Temko
To: T. Pocijewski, H.Z.
2071-05-23 13:15

Make sure the VG comes in first. We need the strict
authority of interrogation here. Time to close the loop .

>Boys, this is a good day! Undocumented American arms dealers
>love to say when you beat them long enough. It looks like
>our militants live in a squat camp eight miles south of the
>Exchange, right by the bay.

>SOBR brigades are ready, and VG specialists are flying
>airbound.

>>Nothing from friends.

>>>[...]

=====

From: automatic.gprom
To: YOU
Subject: Daily Situation Circuit
2071-05-24 07:31

Left-Wing Militant Group Banned on Yamal Peninsula

BY THE SIBERIAN TIMES
24 MAY 2071

The left-wing militant group “Workers Action” has been outlawed by Yamal Peninsula administrators, officials say.

The decision to outlaw the group came after a pre-dawn police raid that uncovered a sizable weapons cache. It is unknown how many members of the group were arrested in the course of the raid.

“That groups like Workers Action would seek to spread disorder is generally unfathomable. It becomes doubly so when considering the times we are in,” said Yamal administration official Alexei Petrov, referring the ongoing outbreak of smallpox.

When asked what led to the raid, Petrov commented that “swift police action” in the wake of last week’s armed robbery of a Gazprom office had led to the discovery of the cache.

Workers Action was formed in 2070 as a split from the International Socialist Liberation Organization, a self-described Russian “Neo-Bolshevik party” that has grown in popularity the past several years.

Even before this recent turn of events The International Socialist Liberation Organization has disavowed Workers Action.

=====

From: automatic.gprom
To: YOU
Subject: Daily Situation Circuit
2071-08-08 07:36

One dead, hundreds injured in Russia Vorkuta protest

ANNE FAULKES
BBC SENIOR MOSCOW CORRESPONDENT
8 AUGUST 2071

One protester has died and over 200 were injured as thousands took to the streets in protest of the handling of the region's recent smallpox outbreak.

The protester has been identified as Oleh Popov, a 19 year old student at the city's mining college. He was killed when a police officer opened fire on the protesters with live ammunition.

The police officer, whose name is being withheld from the press, has reportedly been suspended pending review. The Vorkuta police department says it did not authorize the usage of live ammunition, and that its riot response tactics, while forceful, are not intended to do significant damage.

The protests are now in their second week, and in the wake of these tragic events they are expected to grow.

Aside from the issue of the smallpox outbreak response, grievances listed by the protesters include police brutality, ecological issues, indigenous rights and working conditions.

=====
From: automatic.gprom
To: YOU
Subject: Daily Situation Circuit
2071-08-16 14:53

Russia Salekhard blast: bomb kills two at private military corporation's office

ANNE FAULKES

BBC MOSCOW SENIOR CORRESPONDENT
16 AUGUST 2071

Two employees of the Vincit Group, a private military corporation and defense contractor, have been killed by a bomb blast at the company's Salekhard headquarters, officials say.

The explosives went off just inside the building at around 11:30 (8:30 GMT). The explosion caused significant damage.

The Siberian nationalist group True Siberia has taken credit for the attack in document sent to multiple media organizations. The document cites the Vincit Group's activities on the Yamal Peninsula, the police shooting of student protester Oleh Popov last week, and "Moscow's continued domination of the mineral heritage of the Siberia people" as the reasons for the bombing.

The Vincit Group has long been a contractor for Gazprom, the Russian oil-and-gas firm that owns much of the Yamal Peninsula. Hu Zheng, an employee of the company who was acting as head of Yamal Peninsula special security, died onboard the *MOL Golden* last June.

"When trouble stalks the world, Nga rises up from the eternally frozen ground," True Siberia's communique concludes, referring to the deity who rules over the underworld in Nenet cosmology. "You might have thought he came as the illness, but in reality he moves through us."

=====

From: Alexei Petrov
To: Stepan Fridman
Subject: Uncontained

RED BLOC REPORT

Siberian Ghost Armies (Part 21)

Everybody's seen the news: comrades in the True Siberian movement have blown a hole in the side of the Salekhard, Russia headquarters of the Vincit Group. Two employees of this private fascists-for-hire firm were killed the explosion and according to the BBC there was significant property damage. With Workers Action stirring up problems in the north and strikes paralyzing Moscow, the petro-state is starting to look shaky.

Here's what we do know:

- The Vincit Group was registered as a Local Company in Hong Kong in 2066. The registration lists a secondary address in Salekhard (the office that was bombed), and has declared no financial information.
- The Vincit Group's president is listed as Anton Przedborski. He was formerly the president of two other private military companies, Vincit Network East and Vincit Network West. Both were registered on the same day in 2052, and were each dissolved a month before the registration of the Vincit Group. Vincit Network West had a secondary address in Lexington, Kentucky, and Vincit Network East had a secondary address that is the same as the current Vincit Group. It would seem that, for all intents and purposes the two Vincit Networks and the current Vincit Group are one and the same.

- The building in Salekhard where the Vincit Group was located was owned by the Novatek Group until it was absorbed by Gazprom in 2048. At this point Gazprom assumed ownership.
- The Vincit Group was Gazprom's de facto enforcement arm in the Yamalo-Nenets Autonomous Okrug. On the peninsula it wasn't just corporate security, it was the only police.
- Vincit operated in the Middle East, hired to protect both Russian and Chinese pipelines and even to give Americans tactical support. Some of the same personnel who were operating in these active warzones were rotated north to serve as 'peace officers' in Yamal. One example of this was 'special security' chief Hu Zheng, who spent over a year in Qatar before taking up post in Russia.

The reason for the Hong Kong registration is likely due to the banning of PMCs in Russia. This convenient loophole has a long history, going back nearly 70 years, when mercenary outfits like the Wagner Group set up shop there. It's also attracted Western PMC firms: prior to their disbanding in the wake of the 'Cartagena Incident', the American outfit New Frontier Services were registered in Hong Kong, as is the British Carrier Solutions Limited.

This commodification of war has unleashed a literal anarchy across globe. The employees of these companies are ghost soldiers, hired by nations to do their dirty work that their official armies cannot do. We're not surprised to learn that rumors of "death-masked soldiers" (to quote one source) were operating as licensed hit-squads during the Yamal Peninsula outbreak. For those curious what these 'death masks' might be, consider this: images of Vincit Group operators in Syria and Qatar shows soldiers with their faces obscured by skull masks. Hmm....

Death to the International Capitalist Pig Order! Down with their criminal foot-soldiers!

For more on the Vincit Group and related organizations, be sure to check out these older posts:

- “The Atrocity Museum”: Pursuing private ghost armies across Qatar
- Behind and Beyond Geopolitics: PMCs without nations
- Capital’s Marching Dogs and the Kuwait Civil War
- The Riyadh-Yamal Circuit

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STATE RESEARCH CENTRE OF VIROLOGY AND BIOTECHNOLOGY

HEMORRHAGIC SMALLPOX FACT-SHEET [DRAFT COPY: DO NOT CIRCULATE!]

Smallpox is an acute, contagious disease. Caused by the variola virus, smallpox was one of the most deadly diseases in human history until its eradication by global immunization campaigns by the World Health Organization (WHO) and partner countries in the 1970s. The recent events in the Siberian regions of the Russian Federation, however, have led the WHO to declare smallpox an active, existential threat to interconnected global civilization. In the worlds of WHO president Katrin Jónsdóttir, “the resurgence of smallpox in Russia, along with recent cholera outbreaks in the typhoon-devastated Philippines, highlights the ubiquity of the dangers we face in this age of runaway climate change.”

Smallpox is primarily spread by direct, face-to-face contact and saliva droplets. It has an incubation period of roughly a week to two-week span from the moment of exposure. The first symptoms include a high fever, abdominal pains, vomiting, pharyngitis and headaches. It is at this point the infected individuals are themselves at their most infectious. Subsequent symptoms include a characteristic skin-rash. A petechial rash is known to occur. During the ‘eruptive phase’ of the disease, the fever subsides and rash lesions will develop. These tend to occur first in the mouth and throat, before spreading to the face and the extremities. Over the course of the next 4 to 5 days, the rash lesions grow from macules (small, flat, patches of discolored skin) to papules (a raised swelling on the skin, inflamed but usually devoid of pus) to vesicles (fluid or pus-filled blisters) before scabbing or crusting over. The mortality rate for smallpox is 20-30%.

Hemorrhagic smallpox is a rarer, more deadly form of the disease. While the most prevalent forms of the variola virus have an approximately a two-week incubation period, the incubation period for hemorrhagic strains is far shorter. Transmission of hemorrhagic smallpox, which occurs through face-to-face contact and fluid exchange, is therefore capable of spreading rapidly.

Many of the symptoms of hemorrhagic smallpox are identical to those of common smallpox strains, though the intensity of those systems is significantly amplified. Unlike the common variants, hemorrhagic smallpox tends to induce a deep reddening of the skin which gives way to petechiae and hemorrhages of the skin and mucous membranes. With a mortality rate nearing 90%, death from hemorrhagic smallpox occurs within a week of symptom appearance and is the result of hemorrhaging, toxemia, and catastrophic organ failure.

Can smallpox be treated?

- There is no cure for smallpox, but vaccination can prevent infection if taken within an appropriate window (roughly four to five days after exposure). Similarly, preliminary vaccination programs have shown to be largely successful, having been at the forefront of the World Health Organization's late-twentieth century smallpox program.

What vaccines are available?

- There are currently four generations of licensed vaccines: ACAM2000, LC16m8, MVA, and RP90b. Research and development for a fifth generation has recently been initiated, through time to market, but less trials, is in all likelihood years away.

Are the available vaccines effective for treating hemorrhagic strains of smallpox?

- Preliminary vaccination does not prevent hemorrhagic smallpox infection, nor does slow or halt the progression of the disease.



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WORLD HEALTH ORGANIZATION
VARIOLA VIRUS SITUATION REPORT 9 JUNE 2071

SUMMARY

- A total of 1,672 confirmed, probable, and suspected cases of variola virus (VARV) have been reported in the Yamalo-Nenets Autonomous Okrug of the Russian Federation up the end of 9 June. No firm accounting of total fatalities has been officially determined

as of this same dates. Estimates range from 600 on the low end to 1500 on the high end.

- High-density outbreak clusters are confined primarily to the northern part of the Yamalo-Nenets Autonomous Okrug, primarily in the Yamal Peninsula. There is considerable evidence to suggest a declining rate of transmission in the rest of the administrative region, though under-reporting of cases and deaths remains a possibility. On-site World Health Organization (WHO) specialists recommend a staggered, scale-based assessment program going forward.
- In the three week of 2071 June WHO will be rolling out a new Smallpox Response Roadmap. This Roadmap will proceed along five major planks:
 - Increased accuracy and availability in case reporting, based on systems and mechanisms developed by on-the-ground actors from WHO and partner organizations, namely the Russian State Research Centre for Virology and Biotechnology (VECTOR) and the Chinese Center for Disease Control and Transmission (CDC).
 - The creation of a joint WHO-VECTOR Intra-Agency Collaboration to replace the cumbersome Arctic Crisis Council (ACC).
 - New guidelines for safe and dignified burials.
 - Social mobilization and full community engagement in contact tracing and risk mitigation.
 - The implementation of an integrated, multi-scaled and participatory intra-agency programme to ensure the continuity of essential and supportive services in containment areas (primary healthcare, psychosocial support, food).
- Situation reports are now presented in a web-based format to provide detailed information at the administrative district level, including data and maps, in a more interactive way.

WORLD HEALTH ORGANIZATION

VARIOLA VIRUS SITUATION REPORT 21 JULY 2071

SUMMARY

22 new confirmed cases of variola virus (VARV) were reported in the week to 21 July, all of which were reported in the Yamalo-Nenets Autonomous Okrug, a federal subject of the Russian Federation. The country had reported 14 cases in the previous two weeks. Of these cases, 12 were reported in the Tambeyskoye Administrative District, 7 were reported in the town of Nadym, and 3 were reported in the city of Salekhard. Of note, 4 of the Tambeyskoye cases and 1 case from Salekhard were identified after post-mortem testing. The mortality rate in the Nadym cluster is at present unknown.

The Kharasaveyskoye Administrative District reports zero new cases in the past week. The district has now entered into a 120-day period of enhanced surveillance scheduled to conclude on 20 October 2071.

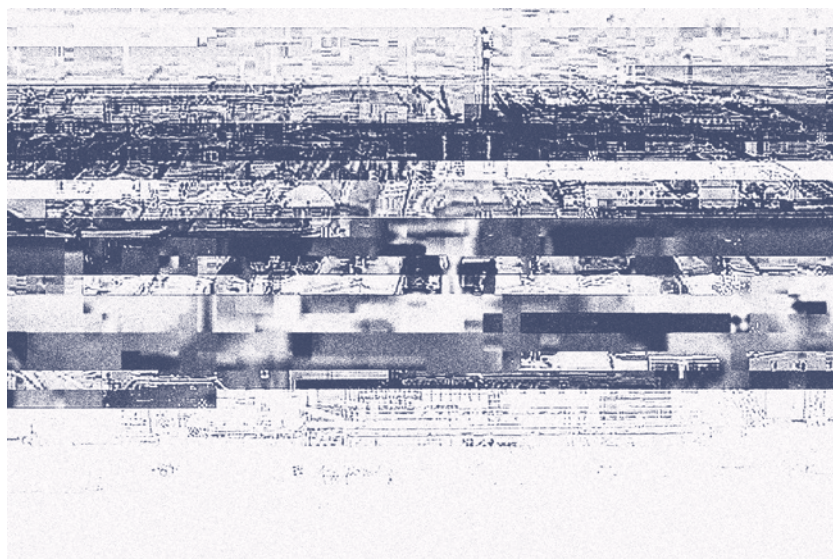
Confirmed incidences of human-to-human VARV transmission remains predominantly bound to the southern and south-eastern regions of the Yamalo-Nenets Autonomous Okrug's Yamal Peninsula. The closed geographical density of the transmission clustering indicates successful application of WHO-recommended containment procedures. Although expectation of expanded transmission remains low, the increase of reported cases in the week of 21 July has led the State Research Centre for Virology and Biotechnology (VECTOR) to maintain alert status at phase-4.¹

The phase-4 response, developed by the joint WHO-VECTOR Intra-agency Collaboration on VARV,² builds on and adapts WHO's ebola virus mitigation and containment program to eliminate case incidents and drive virus transmission to zero.

In order to effectively manage and respond to the consequences of the continued risk, the Russian Federation has put surveillance systems in place to enable health workers and members of the public to report any cases of illness or death that they suspect may be related to VARV to the relevant authorities. The Russian government, with support from partners including WHO and the Chinese Center

for Disease Control and Prevention (CDC), has implemented additional screening procedures for oil-and gas workers from the Tambeyskaya and Malyginskoye administrative districts.

The deployment of rapid response teams following the detection of new outbreak clusters continues to be a cornerstone of the Russian Federation's national and subnational response strategy.



1. VARV response phase 4: a flexible framework for achieving and sustaining a resilient zero: <http://who.int/csr/resources/publications/varv/varv-response-phase4/en>.
2. See: <http://who.int/csr/disease/varv/situation-reports/icv-reports/en>.

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
05/24/71	FRIENDLY ACTION	RAID	FRIEND	8

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	[UNKNOWN]	[UNKNOWN]	0
WOUNDED IN ACTION	[UNKNOWN]	[UNKNOWN]	0

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Report Key: 1095
Tracking No.: IX-256984346
Reporting Unit: NOT PROVIDED
Unit name: NOT PROVIDED
Originator GROUP: NOT PROVIDED

ATTACHED: INVENTORY CACHE

TYPE	ITEM	QUANTITY
WEAPON/WEAPON SYSTEM	AEK 21 LIGHT MACHINE GUN (LMG)	3
WEAPON/WEAPON SYSTEM	AEK 21 SHARPSHOOTER RIFLE	2
WEAPON/WEAPON SYSTEM	AEK MODULAR MOUNTING SYSTEM (MMS)	5
WEAPON/WEAPON SYSTEM	AJS-7.62MM	1
WEAPON/WEAPON SYSTEM	ARMATECK HD-96 MULTIPURPOSE WEAPON SYSTEM (MWS)	5
WEAPON/WEAPON SYSTEM	ANGEL EYE MULTIPURPOSE WEAPON SYSTEM (MWS)	1
WEAPON/WEAPON SYSTEM	FMR-17 ANTI-MATERIAL RIFLE	1
WEAPON/WEAPON SYSTEM	GENTEX WARFIGHTER PROTECTION SYSTEM	2
WEAPON/WEAPON SYSTEM	SELF-MADE MINES	16
WEAPON/WEAPON SYSTEM	ZYFCO MAXIM9 HANDGUN	9
AMMUNITION	5MM CALIBER	2300
AMMUNITION	5.56 CALIBER	5200
AMMUNITION	9MM CALIBER	1250
AMMUNITION	12.7MM CALIBER	320
TRANSPORT	POLARIS SNOWLEOPARD	6
CLOTHING	SORNETTE COMBAT BOOTS	12
CLOTHING	SORNETTE TACTICAL HELMET AND DISPLAY	12
CLOTHING	SORNETTE TACTICAL JACKET	12
CLOTHING	SORNETTE TACTICAL VEST (BULLETPROOF)	5
COMPUTERS/COMPUTER EQUIPMENT	SMARTBOOK FOLIO	2
COMPUTERS/COMPUTER EQUIPMENT	DYNTYPE EXTERNAL HARDRIVE	4
COMPUTERS/COMPUTER EQUIPMENT	PORTABLE SOLAR PANEL AND CHARGING STATION	4
COMPUTERS/COMPUTER EQUIPMENT	CAMERA	3
COMPUTERS/COMPUTER EQUIPMENT	TRAILBUDDY HANDHELD NAVIGATION SYSTEM	2
DOCUMENTS/BOOKS	CAPITALIST DOMINATION AND WORKING CLASS SABOTAGE	1
DOCUMENTS/BOOKS	FIELD MEDICINE	2
DOCUMENTS/BOOKS	U.S. ARMY SPECIAL FORCES GUIDE TO UNCONVENTIONAL WARFARE: DEVICES AND TECHNIQUES FOR INCENDIARIES	1

DOCUMENTS/BOOKS	U.S. ARMY SPECIAL FORCES UNCONVENTIONAL WARFARE HANDBOOK: GUERRILLA WARFARE, RESISTANCE & INSURGENCY: WINNING ASYMMETRIC WARS FROM THE UNDERGROUND	1
DOCUMENTS/BOOKS	THE USEFUL KNOTS BOOK	1
DOCUMENTS/BOOKS	STIGMERGIC CONFLICT IN THE LATE NEOTECHNIC ERA	1
DOCUMENTS/BOOKS	STATE AND REVOLUTION	1
MISC	CAMPING STOVE	4
MISC	CYANIDE CAPSULE	24
MISC	ELECTRIC DRILL	4
MISC	FLARES	30
MISC	FLAREGUN	3
MISC	GAS CAN (SMALL)	12
MISC	GAS CANS (LARGE)	6
MISC	GASOLINE	2400 LITERS
MISC	MEDICAL KITS	24
MISC	MRES	68
MISC	POLARIS SNOWLEOPARD REPAIR KIT	6
MISC	UTILITY KNIFE (ASSORTED)	5
MISC	SCREWS (ASSORTED)	300
MISC	VAPEX LOW-TEMPERATURE SLEEPING BAG	6
MISC	VAPEX LOW-TEMPERATURE TWO-MAN TENT	12
MISC	WATER (BULK)	3000 LITERS
MISC	WATER (BOTTLED)	
MISC	WATERPROOF MATCHES	64
MISC	WIRE (ASSORTED)	120+ METERS



**TAK-BIT REMOTE OPERATION PROTOCOL SUBJECT MOL GOLDEN
[FOB KOLMOGROV 2071-05-01]**

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DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
08/24/71	ENEMY ACTION	DIRECT FIRE	ENEMY	6

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	2	0	0
WOUNDED IN ACTION	0	1	0

WHILE INVESTIGATING A POSSIBLE AMBUSH SITE S-TAK PATROLS CAME UNDER SMALL ARMS FIRE. S-TAK RETURNED FIRE AND MOVED TOWARDS INSURG. (8) – WHO WERE APPREHENDED AND FOUND TO HAVE A SMALL ARMS CACHE. 2 INSURG. KILLED IN ACTION, 6 ARRESTS MADE. S-TAK PATROL SUSTAINED 1 INJURY.

Report Key: 5569
Tracking No.: K0-85369100
Reporting Unit: S-TAK 205
Unit Name: S-TAK TIGER-RED
Type of unit: [redacted]
Originator group: UNKNOWN

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
08/26/71	ENEMY ACTION	DIRECT FIRE	ENEMY	0

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	0	8	0
WOUNDED IN ACTION	0	1	0

WHILE CONDUCTING CHECKPOINT OPERATIONS, VG LTD. EMPLOYEES CAME UNDER FIRE FROM A SKIHAWK ASSAULT DRONE. 3 OF THE OPERATIVES WERE KILLED BY TWO Y4-R66 MISSILES FIRED FROM THE SKIHAWK DRONE. INSURG. TEAMS THEN ADVANCED ON THE CHECKPOINT AND EXECUTED 4 ADDITIONAL OPERATIVES. 1 OPERATIVE RECEIVED WOUNDS TO THE CALF AND KNEE BUT SURVIVED. WITH THE CHECKPOINT CLEARED MULTIPLE INSURG. TEAMS WERE ABLE TO ADVANCE INTO YNAO TERRITORY.

Report Key: 5589
Tracking No.: KO-85369320
Reporting Unit: YNAO MEDSURGE 8TH
Unit Name: "NIGHTFIRE"
Originator Group: UNKNOWN

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
08/27/71	ENEMY ACTION	ASSASSINATION	ENEMY	0

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	0	2	0
WOUNDED IN ACTION	0	0	0

[REDACTED] REPORTED AN ASSASSINATION OF THE VORKUTA POLICE CHIEF (IGOR REZNOV). SUSPECT IS A FEMALE WITH DARK HAIR AND A DARK GREEN JACKET.

UPDATE 08/27: THE VORKUTA POLICE CHIEF AND BODYGUARD WERE KILLED IN THE STREET IN FRONT OF THE MUNICIPAL HEADQUARTERS. REPORTEDLY HE AND THE BODY GUARD WERE SHOT IN THE FRONT WITH AN AEK 21 LMG, ONE OF WHICH WAS RECOVERED IN A NEARBY ALLEYWAY. FLASH CHECKPOINTS ARE BEING ESTABLISHED IN VORKUTA AND ALONG ALL ROADS LEADING THE CITY AND TRAIN LINES HAVE BEEN HALTED. THE SUSPECT IS A FEMALE WITH DARK HAIR AND A DARK GREEN JACKET.

Report Key: 5614
Tracking No.: KP-853697567
Reporting Unit: NOT PROVIDED
Unit Name: NOT PROVIDED
Originator Group: UNKNOWN

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
08/29/71	ENEMY ACTION	DIRECT FIRE	ENEMY	4

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	5	8	3
WOUNDED IN ACTION	4	12	9

WHILE CONDUCTING ROOM-TO-ROOM SEARCHES AT THE PECHORA APARTMENT BUILDING IN EAST VORKUTA, S-TAK PULSE TEAM 44 CAME UNDER HEAVY FIRE FROM INSURG. AT THE SAME TIME, N.G. FORCES IN THE STREET WERE FIRED UPON BY AN ADVANCING INSURG. GROUP. THE TWO INSURG. GROUPS ENGAGED IN SWARM MANUEVERING AND MANAGED TO SPLIT THE PULSE TEAM IN HALF, SIGNIFICANTLY LOWERING THEIR OPERATIONAL CAPACITY. THE N.G. FORCES SUSTAINED HEAVY LOSSES. REPORTEDLY N.G. SUFFERED 5 LOSSES AND 7 INJURIES. THE PULSE TEAM SUFFERED 3 LOSSES AND 5 INJURIES. MULTIPLE CIVILIANS WERE CAUGHT IN THE CROSS-FIRE, LEADING TO 3 DEATHS AND 9 INSTANCES OF DAMAGE.

5 INSURGS WERE KILLED AND 4 WERE WOUNDED. THE SURVIVING INSURGENTS, PULSE TEAM MEMBERS, N.G. COMBATANTS AND CIVILIANS WERE EITHER TREATED AT THE VORKUTA REGIONAL HOSPITAL OR AIRLIFTED TO MOSCOW. THE SURVIVING INSURGENTS ARE FORMALLY UNDER ARREST.

Report Key: 5992
Tracking No.: KP-853697682
Reporting Unit: S-TAK 44
Unit Name: FORTY-FOUR/“FIREBRAND”
Originator Group: PULSE

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
09/03/71	FRIENDLY ACTION	ARREST	FRIEND	6

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	0	0	0
WOUNDED IN ACTION	0	0	0

LX (1-F02) REPORTED THAT THEY DETAINED SIX INDIVIDUALS ([REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED]) CONNECTED WITH THE VORTUKA INCIDENT. LX WAS OPERATING OFF INFORMATION PROVIDED BY A CONFIDENTIAL INFORMANT THAT THE SIX WERE HIDING IN THE MALYGINSKOYE ADMINISTRATIVE ZONE. NO INJURIES OR DAMAGES REPORTED.

Report Key: 6043
Tracking No.: KP-85389284
Reporting Unit: NOT PROVIDED
Unit Name: NOT PROVIDED
Originator Group: UNKNOWN

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
09/13/71	FRIENDLY ACTION	AMBUSH	FRIEND	[UNKNOWN]

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	[UNKNOWN]	[UNKNOWN]	[UNKNOWN]
WOUNDED IN ACTION	[UNKNOWN]	[UNKNOWN]	[UNKNOWN]

FINAL REPORT

WHO: Report from New Diligence LLC
WHEN: 090971, 091071
WHAT: Ambushes

HOW: New Diligence LLC executed five coordinated ambushes in the following locations:

YP 041 226 (Novoportovskoye)
YP 028 308 (Leningradskoye)
YP 012 762 (Bovanenkovskoye)
YP 024 355 (Leningradskoye)
YP 005 243 (Novoportoveskoye)

BDA:
UNKNOWN

S2 ASSESSMENT: PURPLE

XXXXX REPORTS THAT INSURG. AT YP 012 762 WERE MAINTAINING A SMALL-SCALE BOMB AND AMMUNITION FACTORY USING WHAT APPEARED TO BE GREENTSING MODULAR MANUFACTURING EQUIPMENT FROM A NEARBY GAZPROM MACHINE SHOP. V.G. INTERROGATION OPERATIVES DISPATCHED TO ASSESS SHOP PERSONNEL. NDL SAYS THAT INVENTORY AT YP 012 762 WAS VERY LOW, INDICATING ARMAMENT DIFFUSION. RECOMMENDING INCREASED CODE COLOR STATUS.

Report Key: 12098
Tracking No.: KQ-542394238
Reporting Unit: NEW DILIGENCE LLC
Unit Name: MAESTRO
Originator Group: UNKNOWN

DATE	TYPE	CATEGORY	AFFILIATION	DETAINED
09/14/71	EXPLOSIVE HAZARD	UNKNOWN EXPLOSION	ENEMY	0

	ENEMY	FRIEND	CIVILIAN
KILLED IN ACTION	0	[UNKNOWN]	0
WOUNDED IN ACTION	0	[UNKNOWN]	0

AT 1903 HOUR THE SABETTA RAIL STATION MANAGER REPORTED INDICATIONS OF AN EXPLOSION ON THE OB BAY BRIDGE RAIL LINE. THE 6 BTG DIRECTED S-TAK 33 TO RECON THE BRIDGE FROM FOB KOLMOGROV TO THE 6 BTG BOUNDARY LINE. 1-422 IS CONFIRMING [CALL SIGN: "HORNET"] IS GOING TO THE SCENE OF THE ATTACK TO INVESTIGATE.

Report Key: 15929
Tracking No.: KQ-6246057
Reporting Unit: 6 BTG
Unit Name: UNKNOWN
Originator Group: UNKNOWN



“ATTACHED FILE PHOTO VKTUU868-34.SBR”

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CAPITAL



WAR



INTELLIGENT



INCURSION



SURVEILLANCE



ARCTIC



EMERGENT



PHENOTYPE



ETERNAL



FUGITIVE



HYPERSONIC



HYPERSTITION



OBSERVATION



RECORDING DEVICE



LOOP HOLES



LOVE



AUTONOMOUS



THEATRE



ENMESHED



SYSTEM 317



OPERATION



MAKROLAB



RAMIFICATION



INTERPLAY



CONNECTION



BECOMING



PARADOXICAL



REPAIR



DATA LANDSCAPE



U.G.O.



CELESTIAL



TECHNOLOGY



LJUBLJANA



ENGAGEMENT



AESTHETICS



OVERLAYING



MX



NETWORK



REPORT



EVENTS



NAVIGATION



POLAR



U.F.O.



EARTH



SITUATIONIST
INTERNATIONAL



PERSPECTIVE



CROWD



WISDOM

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