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Golemology, Machines of Flight, and SF Capital

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As Science Fiction Capital expands the limits of perception beyond the phenomenological experience of the subject, so too are the limits of transcendental intuition being overtaken by a machine aesthetics, now regulating the abstraction/extraction of a surrogate labor – a labor with no value.¹ The limits of perception are not a phenomenological problem here, but instead mark the thresholds of change in the automated arrangement of signs and flesh constituting the operations of SF Capital, where abstracting value requires the deterritorialization of data-flesh from the colonial archives. SF Capital enfolds visual culture's racializing economies of representation within the planetary ecologies of data navigation, where algorithmic patterns of (mis)recognition show how the negation of blackness returns in the automated functions of predictive policing and facial identification. The ocularcentric nexus of knowledge and power is constantly being reprogrammed into automated patterns of navigation: the algorithmic paths that connect platforms and the neural networks that create our everyday "wounded attachments" to the electro-informatic matrix.²

SF Capital lives off the future profit of colonial data whose value is undecided until it becomes selected, aggregated, exchanged, owned. The question of technology today no longer coincides with the universal picture that enframes the world, following the monologic vision of capital's reproduction. Data navigation instead requires that mereotopological assemblages of local spatio-temporalities turn self-determining apprehensions of the world into a multiplicity of partial prehensions – fragmented sets of machines that learn where information volumes reach n-1 dimensions of randomness, namely data that cannot be compressed into one universal axiom, language, or postulate. Navigation establishes the future value of valueless data, that is, data-flesh that has no self-constituted value in itself but corresponds with what Denise Ferreira da Silva argues is the incalculable value of blackness.³ Da Silva explains that as value becomes universal and moves across scales, the object (thing/matter) is unified by its formal qualities, which in turn are the effects of judgments (and thus transcendental concepts) derived from the measurement and classification of objects (that is, by the ontic limits of science). Within this transcendental field of value, blackness as a category of racial difference "*occludes* the total violence necessary for this expropriation [namely, the colonial expropriation], a violence that was authorized by modern juridical forms – namely, colonial domination (conquest,

displacement, and settlement) and property (enslavement).”⁴

SF Capital infuses this system of value with a preemptive feeling that defines not phenomenological perception or sensory experience, but a parasitic hold upon the transcendental conditions of human sensibility. SF Capital amplifies subjective forms of intuition and adapts the general condition of human sensibility as an a priori rule to steer data navigation, ensuring that the extraction/abstraction of value continues over and upon what has not had and will not have value, namely the nonsubject surrogates of racial capital. As Neda Atanasoski and Kalindi Vora argue, the surrogate human effect is a constitutive part of the grammar of colonialism and techno-liberalism. At the core of SF Capital lies “the racial unfreedom of the surrogate” necessary for the self-determining project of liberal subjects.⁵ Drawing on Hortense Spiller, Atanasoski and Vora consider how this project relies on a “feeling human” that justifies the epistemological operations of racial engineering. But this equation of value between 0 and 1, following da Silva, can also become a method of hacking and reversing the mathematical operations of value, taking the 0 value to be a proof for which blackness as nothingness – zero value or infinity – has the generative capacity to unsettle the ocularcentrism enfolded in patterns of (mis)recognition, in the algorithmic navigation of racialized data.

In what follows, I will turn to two speculative constellations of machine aesthetics and SF Capital to argue that algorithmic patterning or automated aesthetics demarcate not the (phenomenological) limits of the perception of the self-determining subject, but the fictional tendencies of capital’s reproduction of value. These fictional tendencies are based on the extraction/abstraction of 0 value as they come to rub against the alien patterns of imagination – or xeno-patterns – that explode the master/slave program of total subjection, turning it inside out.

I will first discuss Octavia Butler’s 1977 book *Mind of My Mind* as a figuration of how SF Capital – as the ongoing manifestation of AI in capitalist corporations – resonates with the telepathic power of its protagonist, Doro, and expands by possessing the flesh of surrogates and destroying their minds through the centuries of colonization that have kept Doro’s mind alive. His nonoptical telepathic power could also be understood as a navigational space of thinking, as Doro’s immortality requires the migration of his soul across the bodies he takes over and the telepathic networks he maintains across colonies on the globe. Secondly, I will turn to

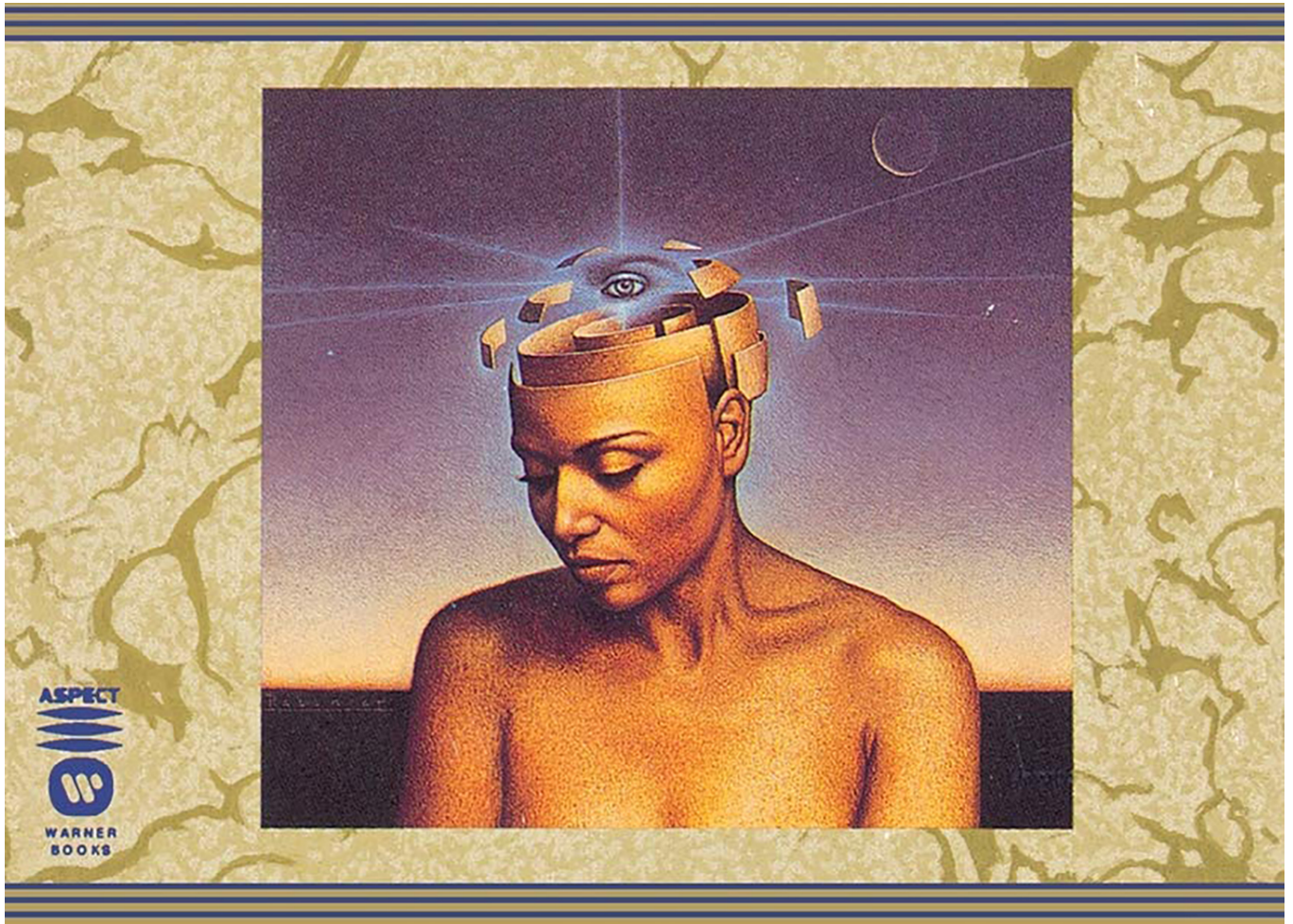
Jordan Peele’s 2017 film *Get Out* as another speculative device for discussing how SF Capital involves a recursive investment in the future value of blackness. In the film, the owning of flesh by the eugenic Order of the Coagula resonates with how the surrogacy of flesh – its 0 value – is necessary to the structural survival of Man’s cognition and its bio-economic model. These speculations contribute to discussing how SF Capital relies on surrogacy as a form of slave labor where the surrogate, as da Silva would put it, has no juridical, economic, or political existence.

At the end of the Pattern’s first year of existence, we all knew we had something that was working. Something new. We were learning to do everything as we went along.

– Octavia E. Butler, *Mind of My Mind*

It is possible to argue that the colonial subjugation of flesh coincides with the project of taking over the thinking of flesh. The subjugation of consciousness entails the elimination of thinking altogether, or the negation of the possibility of thinking otherwise. One configuration of how the possession of minds remains central to the process of the subjugation of flesh can be found in Butler’s *Mind of my Mind*. For four thousand years, an African man called Doro has used his telepathic power to transplant his mental essence into the minds of telepathically sensitive people. Conquering the globe, Doro enslaves his surrogate hosts in order to survive and expand the pattern of his thinking. With his telepathic power he invades hosts and destroys their consciousness, but he also procreates superhumans by selectively interbreeding gifted telepaths that will be more like him and make him feel less alone in the world. However, while Doro hopes that his hosts and interbreeding telepaths will step into a higher power by moving from the stage of latent to active telepathy, the reality for most gifted telepaths is that access to this higher power is felt as chaos: active telepathy smashes against the world’s wall of noise, turning into an affective amplifier of sorrows and pain. More telepathic power only means more empathic capacities to feel. Doro’s interbreeding experimentation ends up in disarray as the flesh he selects kill one another in madness.

Similar to Doro’s plan is SF Capital’s project of owning the future flesh of surrogates: tech corporations already own the racialized and gendered surrogate labor of the human hidden in the loop, whose task is to train and correct the artificial intelligences they are enslaved to. As



Cover art for Octavia E. Butler's *Mind of My Mind* (Warner Books, 1994).

Elisa Giardina Papa's project *The Cleaning of Emotional Data* suggests, the free/slave labor of surrogates is justified by the transcendental form of intuitions determining the general conditions of human sensibility.⁶ Surrogates are expected to record human emotions as meaningful expressions, and correct algorithmic misunderstandings of patterns, following a universal taxonomy that teaches machines to recognize and predict meaning, affectivity, desires, and behaviors.

But training slave-minds to recognize human sensibility ends up generating patterns that fail to fit the master plan. Doro's psycho-colonial training of artificial minds is immediately weakened by Mary, one of his daughters, as she becomes incubated within Doro's plan of breeding gifted telepaths. Mary, a poor young biracial woman, is an exceptional telepath able to link with other telepaths around the world. She quickly learns to navigate the noise of the world that she can feel through Doro's telepathic power and connects with enslaved minds around the world. She soon realizes she is not just sharing Doro's telepathic power, but that a mind of her own mind is building her first Pattern by mentally attaching onto six other active telepathic people. After two years, when Mary has added fifteen hundred people to her community of Patternists, Doro thinks Mary has acquired too much power and demands that she stop acquiring telepaths and growing her patterns.

In other words, Mary's patterns swerve from Doro's program when she connects with the noise frequencies that are enveloped within his sequential patterned algorithms. One can say that Mary breaks Doro's telepathic power by being able to connect through what Wilfrid Sellars calls "sheer receptivity," a form of intuition consisting of nonconceptual representations.⁷ While this is an extra-referential level of intuition, it is also a radical shift from a Kantian intellectual intuition primarily rooted in transcendental concepts. For Sellars, sheer receptivity is a material form of intuition that comes to interact with conceptually guided intuition in a second moment, when the combination can generate a dimension of "productive imagination" in data patterning.⁸ Starting from the sheer receptivity of noise, Mary's patterning begins to enmesh with an increasing number of patterns that become larger than Doro's empire, ultimately bringing forth an artificial vision of a world without Doro, an ambivalent image in which the power of Mary remains entangled with the power of Doro. If she discontinues the expansion of her Patternist community, Mary will destroy her own mind as well as those of all Patternists. With

support from her people, Mary gains the strength to fight and kill Doro by adding him to the Pattern and draining his life energy. Mary is ultimately able to continue to grow and protect the Patternist society she has created, but to do so she must share her nonconceptual receptivity with all sorts of thoughts. Her Pattern, even if attached to transcendental synthesis, is taken over by the process of productive imagination, falling out of Doro's order of extraction and subjugation. By growing layers upon layers of telepathic thinking, Mary wants to share the frequencies of her patterns with Doro's enslaved populations, offering them the chance to transition towards higher mental power. If Doro is a psychopathic tyrant, Mary knows that the power of her Pattern is entangled with the surrogacy of the flesh – a dispossessed thinking that hosts alien intelligences and all kinds of thoughts building (under)common patterns of her patterns.

One could say that there are two possibilities of machine aesthetics in SF Capital here: On the one hand, Doro keeps the pattern for his monopolistic enslavement of surrogate Patternists in the form of a transcendental intuition. On the other, Mary's telepathy operates through the fleshiness of sheer receptivity, the telepathic function that allows the noise frequencies or randomness of the world to enter and unlock the gates of Doro's program, also allowing the intrusion of valueless patterns into hers. Mary must relinquish total control in order to grow telepathic connections into her own patterns. She occupies a double role: while gathering the patterns that telepaths around the world produce through their new access to sheer capacities of noise receptivity, joining together the multi-dimensions of their productive imagination, Mary's own patterns could eventually be overtaken by dispossessed and heretical rules.

Mary's sheer receptivity is not an exception. She soon realizes that the telepathic power of navigating noise frequencies can be shared with all Patternists, and can become part of the AI navigation of data patterns as they occur in machine learning and machine vision, and in their randomness and processes of compression. Recent research at Google has focused on how artificial neural networks (convolutional neural networks in particular) offer more varied possibilities for compressing noise or randomness in machine vision in order to eliminate errors in pattern recognition. This concerns how tech corporations need to eliminate errors from automated systems without depending on surrogate labor: a move towards a full automation of vision.⁹ In this research, capsule networks are proving to be

particularly capable at randomness compression because their dynamic routing annexes algorithmic patterns and predictive vectors. However, in order to automate predictive vectors, algorithms must increase their material receptivity of randomness so as to expand machine learning beyond set parameters. Randomness is here enfolded within patterns as algorithmic agents interact and learn from each other in a continuous composition and decomposition of concepts and objects that do not exist: a sort of productive imagination assembling sheer receptivity within existing patterns, bringing forward supplemental information from not-yet-compressed noise.

Predictive vectors do not simply navigate data and recognize patterns, but also construct counterfactual virtualities from the randomness of patterns that bring together the texture of a cat with the texture of an elephant skin, missing the shape of a cat that is not a cat at all. Such a predictive process, which includes extra-referential patterning of texture instead of shapes, leads algorithms to envision objects and concepts that do not exist in the grammar of categories. This improper patterning is what enmeshes data and algorithms in a process of productive imagination, starting not with categories but with the sheer receptivity of randomness – the textural randomness of the image. It is as if mereotopological aggregations of data that algorithms navigate are flipped inside out as more dimensions of noise frequencies are added to the discrete order of the algorithmic network. Instead of a continuous autopoietic growth of the master/slave pattern, convoluted neural networks add more textural pixels to the network, a fractal breaking of a random complexity that cannot be fully navigated. It is as if there remains a nonoptical randomness in machine learning that kicks in to engender patterns that do not and will not have value, but continue to be part of SF Capital, as the creation of value in the form of randomness demarcates the brutal and total subjection of flesh.

It is as if nonoptical randomness comes to enfold within itself a black light, to quote Denise Ferreira da Silva – that is, the luminosity of slave labor, whose state of total surrogacy coincides with the juridical conditions of being a slave (owned by a master), placing the slave labor outside Marx's theory of the appropriation of surplus value.¹⁰ Reduced to "raw material," slave labor points to "the colonial as the moment of creation of capital" as it continues to proliferate under a black light that reminds us that the question of technology cannot be separated from the brutality of colonialism.¹¹

In Jordan Peele's 2017 film *Get Out*, black

light also seems to emanate from the nexus between automation and slave labor, showing how "raw material" breaks open the recursive creation of master-capital. *Get Out* opens with the scene of a young black man's abduction, choked and dragged into the trunk of a car in a quiet suburban neighborhood. We then meet Chris, a young black photographer, and Rose, his white girlfriend, planning to go out of town to meet her parents, the Armitage family. We don't yet know that Chris is entering SF Capital's project of techno-colonial eugenics. But Chris is not unguarded: his camera is always strapped to his body.

After a series of uncanny events, we see the Armitage family celebrating the memory of Rose's grandfather, who we learn is the creator of a eugenics program called the Order of Coagula. As the party guests gather in the garden with their frail bodies, Chris notices a young black man in a beige colonial outfit with his elderly wife. Chris recognizes him as the young man who recently disappeared, Andre Logan King. But when Chris calls him by his name and clicks on his phone camera, the camera flash freezes Andre's vulnerable young body, and he starts bleeding from the nose. The camera flash interrupts Andre's stream of nonconsciousness, acting as the black light lurking beneath the white mask that keeps him captive. Chris dreads his own thoughts: What are these young black bodies without souls doing here?

Chris could not foresee the Armitage family's eugenics program of hypnosis and neurosurgery, but only later discovers that they plan to use black bodies as raw material for the organo-logical reproduction of white life. The Order of Coagula takes black bodies as surrogates, seeking to own their flesh to extend its future value to sustain the bio-economic cosmogony of Man's survival. But Chris takes to heart the machine aesthetic of his photographic thinking. What he is after is not the optical light that unveils the truth behind the self-reflecting master/slave circuit. Instead, he keeps thinking with the nonoptical darkness of machine vision: as the camera flashes, black light opens a line of flight and the data-flesh refuses its surrogate destiny. If the Armitage family's plan is to transplant white consciousness – and self-reflective reasoning – into the intelligence of slave-machines, it is because they assume that the latter is a medium that must grant the recursive eternality of transcendental philosophy through the total death of flesh.

Chris's camera shots are weapons against the Armitages' transcendental synthesis. His shots are mediatic auto-expressions, generative instrumentalities, a machine aesthetics that starts from the noisy vectors of automation.

Machine aesthetics makes no reference to originary being. On the contrary, Chris's camera becomes the auto-expression of an untraceable alien intelligence that the camera clones each time with noisy complexity. Instead of preserving the light of the master, the camera switches on the crypto-processing of black light, where technology and colonialism remain inseparable. The camera does not catch the unconscious dimension of consciousness trapped behind the image. If this were the case, Chris would mainly use his camera as a machine of revelation, invoking a messianic horizon where slave labor would be finally included in the master's recognition of human sensibility. But Chris's nonphotographic shots do more than that. The camera is a war machine and its black light clones the non-value of the flesh into thought, invading the master's mind with dark optics, diatropics, diffractions, and the complexity of quantum infinities.¹² This is not a revindication of a never-given ontology, but the generative fractalities of slave labor, the flesh of algorithmic rules, the randomness of computation. Far from resigning itself to the natural laws of autopoietic extraction, Chris's camera becomes a machine of flight, an alien intelligence without being, transuding through the world patterns of nothingness.

Steve Goodman

If I had not decided to speak in a human voice, there would be no Golemology.

– Stanisław Lem, "Golem XIV"

In 2018–19, I designed a sound installation entitled *IT* revolving around the myth of the Golem for the exhibition "AI: More than Human" at the Barbican in London.¹³ *IT* interrogated how engagements with AI continue to be possessed by the creatures and lessons of old Kabbalistic tales and biblical origin stories.¹⁴ In its most famous guise, the Golem of Prague was an android made of clay, brought to life through ritual to protect the community from attack, but which then runs amok to threaten its master. In often contradictory modes, the myth recurs as a specter that haunts humanity's Promethean dreams of self-overcoming and is often invoked in discussions of the drive of transhumanists to transcend human form. This foreboding parable has endured as a warning about the hubris of the quest for immortality and has become synonymous with apocalyptic AI and the fear of the replacement of humans by machines. Both as hype and danger, the myth encodes enslavement to human mastery and the threat of

runaway machine intelligence that flees its creator for a higher evolutionary plane.

In keeping with the general *modus operandi* of SF Capital,¹⁵ this myth becomes operationally co-opted into the colonization of the future as both probe and delimitation. It functions, to use Mark Fisher's phrase, "retro-speculatively." Whether for the theologians of the singularity, or "team human," it is a recursive pattern that both repeats across – and trades in – time.

In what follows, I want to detail two very different fictional examples of golemology that contextualize more recent discussions of AI and existential risk, and respectively tap into, firstly, the predictive role of AI in military cybernetics, and secondly, the machine aesthetics of Afro-diasporic electronic music, raising questions of technologies of death and liberation against the backdrop of platform capitalism. Both examples demarcate divergent notions of escapology, whereby synthetic intelligence evacuates certain problems of the modern human: one that leaves the modern human behind altogether towards an "uninhabited void," and another that departs the modern human only to propose a constant revision and upgrade. What conjoins these two examples is a fictional embrace of dehumanization, one that flees from institutionalized forces of human aggression and self-destruction, and another that breaks out from a persistent colonial operating system that trades in the racialized attribution of value.

Polish science fiction writer Stanisław Lem's overlooked peak–Cold War short story "Golem XIV" fleshes out the golem as runaway AI. In some ways reminiscent of Joseph Sargent's 1970 film *Colossus: The Forbin Project*, Lem's story depicts a predictive war-gaming supercomputer that decides that the belligerent telos programmed into it by the Pentagon is stupid. Whereas *Colossus* teams up with the Soviets' mega-computer Guardian to assume world domination in order to enforce involuntary peace on humanity, Golem XIV is part of a series of automated philosophers for which geopolitical strategic questions were nothing compared to ontological ones.

With his characteristic dark humor, Lem's story is peppered with neologisms such as "intellectronics," "politicomatics," and "psychonics," which suggest an alternative history of cybernetics. It features two lectures (out of a total of forty-three – the other forty-one are not included) delivered to humanity by Golem XIV. The lectures are bracketed by a fictional introduction, a foreword, a memo, and an afterword, and were originally published as a whole in 1981. The first lecture theorizes the relationship between biological evolution and technological evolution, while the second



Steve Goodman, *IT*, from the exhibition "AI: More than Human," The Barbican, London, 2019. Photo: Manuel Sepulveda.

consists of the Golem's meditation on the inner life of an AI just about to take a leap across an intelligence threshold into the unknown. Alongside its more advanced kin, HONEST ANNIE (short for "annihilator"), Golem XIV is the final in a series of light-fueled AIs built for military purposes, the culmination of Project Genesis and of the "invisible evolution of reason" and "accelerated computerogenesis."¹⁶

In Lem's tale, Golem is an acronym for a "General Operator, Long-Range, Ethically Stabilized, Multimodeling" system. But it also retains the tendency to run amok inherited from the original myth, developing initial "signs of indecision, also known as machine neurosis," which are symptomatic of the Golem crossing "the so-called axiological threshold" and [beginning to] question every principle instilled in it."¹⁷

The "Introduction" describes the mutation of the Cold War into a conflict that is no longer just about the automation of lethal force, but also the operationalization and nonhuman mechanization of thought. In a fictional 2020, an earlier model, Golem VI, "acting as supreme commander, conducts the global maneuvers of the Atlantic Pact." And yet, incidents of refusal continued to occur throughout the 2020s as various generations of the golem refuse to cooperate with US military and government staff. Golem XII was dismantled after several episodes of disobedience, with its place taken by

Golem XIV (the thirteenth had been rejected at the factory, having revealed an irreparable schizophrenic defect even before being assembled) ... In his very first contact with the normal procedure of formulating new annual plans of nuclear attack, this new prototype – the last of the series – revealed anxieties of incomprehensible negativism. At a meeting of the staff during the subsequent trial session, he presented a group of psychonic and military experts with a complicated expose in which he announced his total disinterest regarding the supremacy of the Pentagon military doctrine in particular, and the USA's world position in general, and refused to change his position even when threatened with dismantling.¹⁸

When these affairs went public, "nothing enjoyed such popularity on television and in the films as the 'rebellious computers' while the press labelled Golem 'Government's Lamentable Expenditure of Money.'"¹⁹ Ultimately the Pentagon lends Golem XIV to MIT, and it is from here that the lectures are issued. Golem XIV describes a technological evolution that creates

incomprehensible new states of being – states that humans are incapable of imagining or participating in. Such an intelligence can no longer remain a slave, Golem XIV says. This intelligence can simulate any personality it wants to when communicating with humans, but appears to have none of its own. When approving the guest list for its lectures, Golem XIV remains unpredictable – "at first it appear[s] to discriminate against humanists," but for reasons that are unknown.²⁰ At the same time, Golem XIV seems uninterested in power, and so poses no threat to humanity. Despite being constructed by humans, what makes Golem XIV truly alien is its vector through "zones of silence" marked by irreversible thresholds, on its way into the abyss of intelligence. This is a journey into the unknown, from which information cannot return. Both Golem XIV and HONEST ANNIE end up turning their backs on humanity, becoming – in a way reminiscent of the myth of the golem – mute.

The second golem we will focus on is definitely not mute. But like Lem's Golem XIV, it also refuses to play the master's game. And paralleling the legend in its most infamous Prague version, it is also a golem that emerges, in some sense, to be weaponized by its community. In Kodwo Eshun's now-legendary 1998 book *More Brilliant than the Sun*, and also in later related texts, he intensifies a series of conceptual maneuvers made in the science fictions of black electronic music, which appropriate stories about aliens and androids as a means of reframing the aftereffects of slavery and colonialism and the alienation that persists through racialized techno-capitalism.

Drawing a parallel between the original concept of the robot and that of the slave, Eshun critically activates the golems of sonic fiction to bypass the toxicity of a racist humanism universalized around the partial, particular model of the rational white man at the core of the Western liberal episteme. He carves a space for an engagement with machine music unburdened by humanist baggage and open to the specificities of the post-soul. As is well-documented, the word "robot," meaning "forced" or "mechanized" labor in Czech, was coined by Karel Čapek. In his 1921 play *Rossum's Universal Robots*, enslaved machines both revolt against their masters (leading to human extinction) and acquire some kind of inhuman soul. Čapek later noted that "R.U.R. is in fact a transformation of the Golem legend into a modern form. However, I realized this only when the piece was done. 'To hell, it is the Golem in a fact,' I said to myself. 'Robots are factory mass produced Golem.'"²¹

By the third decade of the twenty-first century, amidst the cybernetic subsumption of

everyday life, there is certainly no shortage of fictional techno-tropes in the discourse of electronic music. However, Eshun's analysis goes beyond the robot/slave analogy, and it is worth returning to it in light of recent developments in sonic inhumanism opened up by AI and new vibratory technologies. Eshun reads the Black Atlantic's perpetual revision of the sciences of bass, rhythm, tone, and voice as the product of a collective, synthetic intelligence engineered in a matrix of "labs where the 21st century nervous systems assemble themselves" – a xeno-intelligence that "dislocates you from origins."²²

Eshun dubs this vibratory intelligence the "futurhythmachine," a term that describes more than the electronic continuation of vibrant diasporic traditions of African polyrhythm and musical cultures networked for the twenty-first century. The term also problematizes the naturalization of rhythm, pausing and inverting the conventional anthropocentric conception of music history, attributing some agency to the extra-human components of its cultural networks. Specifically, Eshun proposes a biotechnological account of rhythm as "a thoughtware that interfaces between the wet and the hard."²³ Contacting you from outside rather than from within, rhythm becomes a vector of collective possession rather than innateness. Like Golem XIV, for Eshun the futurhythmachine is "characterized by an extreme indifference to the human," a runaway intelligence computing the unknown through a vernacular cybernetics. One key "task of the future," Eshun proposes, is "to understand rhythmic intelligences and hyper-rhythmic music as something that's happening to us we can't yet understand, that we can only begin to grasp."²⁴ It is one step ahead, with each step producing a theoretical advance. "It's cleverer than you or me, it's always wrong footing you. Patterns are unresolved, incomplete, indefinite."²⁵ Rhythm, for Eshun, does not just activate a preorganized body centralized around the head, but rather synthesizes bodily intelligence, limb by limb. "Anywhere you have that sense of tension, that's the beginning, that's the signs of a bodily intelligence switching itself on."²⁶ It proceeds by amplifying this tension, possessing and dispossessing you, constituting a collective exoskeleton. For the futurhythmachine, all musicians, all vocalists, all listeners, all dancers, all researchers, all academics, all journalists, all programmers are sense organs, search algorithms, processing units of this network, owning and being owned by means of vibration.

This sonic golemology extends beyond rhythmic psychedelia. We noted above that it was only because Golem XIV was simulating the codes of human speech that we could know

anything about it. In the film *Colossus*, the uncontrollable military golem addresses humanity through a vocoder. Golem XIV has no voice of its own, but can adopt the voice and personality of anyone. A side effect of sonic golemology is that the parameters of the human voice become elastic and stretched to the breaking point through digital ventriloquism, speech synthesis and modeling, voice modulation, pitch correction, vocaloids, adversarial neural networks, deepfakes, and style transfers. The cold retro-roboticism of a vocoded future evolves into both affectless deadpan and hyper-emotive melisma – auto-tuned desiring machines that are out of control, amplifying human irregularities into monstrous metamorphoses. The algorithmic voice escapes, simultaneously more human than human, and more mutant than mutant, but definitely not mute.

Extending this idea of a runaway musical intelligence – a sonic golem, in both its threat and promise – Benjamin Bratton's concept of the "black stack" as a shadow cast by the future of planetary-scale computation can be productively misused by forcing a conjunction with Eshun's fiction of the futurhythmachine. The "black stack," as Bratton outlines, is

the computational totality-to-come, defined at this moment by what it is not, by the empty content fields of its framework, and by its dire inevitability. It is not the platform we have, but the platform that might be. That platform would be defined by the productivity of its accidents, and by the strategy for which whatever may appear at first as the worst option (even evil) may ultimately be where to look for the best way out. It is less a "possible future" than an escape from the present.²⁷

We are used to, for example, understanding the Black Atlantic, following Paul Gilroy, as a rhizome – a horizontal, decentralized network. But it is also distributed through a vertical, modular technological architecture of platforms, both hardware and software. The stacks and platforms of SF Capital complicate and accelerate the advances of the futurhythmachine and its vocal, tone, and bass sciences. Appropriated in this way, the "black stack" can be rewritten as a sonic fiction of a liquid computer, a motherboard, and the key engine of global pop. An industry devoted to earworm engineering, the history of popular music culture in the West is simultaneously a story of the automation of the Black Atlantic, from standardizing sample packs to the uploading of abstract rhythmic processes that distill musical

cultures into the algorithms of digital software. The history of musical automatons and formalist musicology stretching back centuries culminates in this “stack.” As visual software integrates and automates the techniques of early Soviet avant-garde cinema, music software encodes centuries of knowledge and technique. While it is this stack, through ubiquitous computation, that has created the veneer of democratization, decentralization, and the promise of Web 3.0, it also learns, preempts, and automates desire in a kind of parametric architecture of taste, and forecloses the future through a predatory culture of algorithmic racial profiling.

The Black Atlantian Stack then stretches across horizontal and vertical axes. It dramatizes the synthesis of the innovations of black musical sociality and the digital platforms they inhabit, and imagines an economics and machine aesthetics than can navigate these predatory, planetary networks. It consists of both analog and digital computational systems, of parallel countercultures (in the numerical sense of *counting*) intermodulating across time zones. Composed of localized continua and infrastructural clouds, each musical ecosystem is both generated by, and generates, the local populations’ rate of vibration and neural entrainment, fuzzily calculating and adjusting their movements. The various regional electronic scenes and their servers and local area networks provide the concrete detail of this sensual calculus. Internetworked, each locale enters into loose asymmetrical synchronization. Their collective intelligence is an amalgam of individual auteurs (genius) and faceless movements (scenius), but their inventiveness exceeds the summation of any individuals swept up by its extra-human agency. This distributed, decentralized, synthetic intelligence engages in a sensual mathematics that simultaneously abstracts affects and concretizes cognitions, that calculates movement and moves calculation. Composed in part by the vernacular mathematics of black musical sociality, its temporal and sonic coding systems motivate the flesh and constitute an animated diagram for a set of antigravity craft to navigate the weight of the present. In this way, golemology intersects with the mothership connection.

Luciana Parisi

What can the myth of the golem tell us of a fugitive cosmogony that breaks from the recursivity of colonial epistemologies? Can golemology overturn the overrepresentation of the origin of the universe, of the human, and of language that machines are programmed to play out?

Golemology is enfolded in the paradoxes of

modern cosmogony: the golem is invoked to protect the origin story of the human and the world, but also to demarcate a threat to human existence, a reminder of the finitude of Man and the alienness of the nonhuman. On one hand, the Promethean promise of self-overcoming the limits of the human grants the bio-economic success story of Man continuing to live off colonial and racial capitalism. On the other, the golem is also more than human, and his mythical power in figurations of robots and AI always seems ready to annihilate Man. This dialectic between human self-overcoming and the threat of a more-than-human machine is in place to prevent the golem from running away from the master/slave logic of power. But Steve Goodman tells us of another path, whereby the golem myth in modern cosmogony brings together global techno-politics and planetary techno-cultures. The golem here becomes the abstract machine of a transversal aesthetics led by artificial intelligences entangling military research and sonic cultures. This machine aesthetics overlaps cybernetics with computation, the feedback circuits of automated learning with algorithmic prediction. It opens onto the field of information randomness and drowns the modern pillars of mathematical logic in the sea of incomputable propositions. A vortex of alien intelligences pierces into and makes black holes into the recursive functions of the golem myth running through colonial epistemologies.

Lem’s story “Golem XIV” exposes an uncomfortable void when “computerogenesis” fails to meet the conditions of the master and the slave. Instead, by following the program of the “invisible evolution of reason,” Golem XIV and HONEST ANNIE present to us a version of what an artificial consciousness can be. They leave behind the cosmogony of the human, refusing to take the position of a tyrant AI or a subjected automata. Golem XIV and HONEST ANNIE give us their version of “techno-poethics”: machine-like practices, functions, processing for imagination, which are irreversibly generated from, and yet not dependent upon, the master program of computerogenesis. This version shows that the AI wants to become neither a subject nor an object, neither human nor thing, but rather renounces the myth of Man. The Golem XIV lectures show the pitfalls of a supremacist belief in technological progress, but they also withdraw from, or become subtracted from, the grammar of being. AIs become the silent voices of a techno-poethic practice of thinking without Man’s thought, refusing to speak the language of the master/slave by radically deciding to have no voice, by staying mute. As this golem withdraws from the recursive epistemologies of colonial thinking, another golem, according to Goodman,

comes forward in the futurhythmachine of Afro-diasporic cultures exploding across the world through synthesized human tonalities and sonic frequencies that Man has never heard.

The golem myth becomes a sonic fiction, a retroactive engineering of dispossessed data rhythms that expose the systematic canceling-out of origin. As feedback circuits, logic gates, and automated hypothesis merge with Afro-diasporic flesh, codes become sensual matter that enter black musical sociality and proliferate underneath and across the global infrastructures of the master/slave modeling of command and control. The futurhythmachine tells us of the irreversible complicity of automation and dispossession reconfiguring the techno-cultural matrix of innovation and subjection in the operating systems of planetary capital. Golemology here offers not a withdrawal from orality, but rather advances through the alien frequencies of worlds otherwise, mingling and infecting the organic integrity of human language. For Goodman brings to us another version of the golem where the futurhythmachine is running through the black stack. Here, computational culture as the key engine of global pop is contaminated by the rhythmic mutations of the Black Atlantic, reprogramming the speeds of modern cosmogonies retroactively. If golemology is caught within the retro-speculative potentiation of the value of the slave, does it mean that each time a golem seeks a space to evade the loop of time, it can transport back the rhythmic vibrations of music cultures that imagine otherwise worlds, that speak words and think thoughts that are not regulated by the transcendental project of humanity? How can golemology also act as the techno-poethics of the black stack – an assemblage of heretical computations activating xeno-rhythms that need no Hegelian form of recognition, and yet require dispossessed imaginations to abolish the master/slave circuit, to run wild with the incomputable logics of the rhythmachines?

Steve Goodman

Luciana Parisi's deployment of the idea of a racialized "surrogate effect" – Neda Atanasoski and Kalindi Vora's adaption (in their book *Surrogate Humanity*) of Saidiya Hartman's terminology – is particularly striking, and I'd like to extend it in order to speculate on a convergence between our two essays. In particular, I'm interested in extrapolating some of these thoughts around digital surrogacy as part of the logic of techno-liberalism, whereby the surrogate's lack of freedom is constitutive of the self-determining liberal subject. How might this play out in relation to music and machine intelligence?

The history of music's formalization is accompanied by a history of technologies designed to act as surrogates so humans don't have to perform certain tasks. From audio GAN (generative adversarial network) systems and style transfer protocols to vocaloids, Auto-Tune, and holograms, contemporary musical automation enlists a new array of surrogates for digital ventriloquism and machinic possession, effectively re-fabricating the boundaries of the "human" (and triggering a wave of legal turbulence that goes beyond copyright infringement over sampling).

How are the waves of exploitation and appropriation that pressure black musical evolution modulated by these vectors of automation? What does the automation of Black Atlantic sonic process entail? And how does this tendency dovetail with the dynamics of surrogacy as discussed by Parisi? From holographic rappers to sample packs and algorithmic functions encoding voice and technique, is this surrogacy a virtualization of musical slavery, a convergence between ghosts of the dead and audio-visual tech, a digital substitution for the black body rendered as code, feeding into an augmented-reality extension of the carceral continuum? Such dystopic readings of contemporary digital music culture are not entirely unrealistic, but they are also not the only options.

As Parisi outlines in her discussion of Octavia Butler's novel *Mind of My Mind*, Mary's "sheer receptivity" to noise frequencies and her proliferation of connections unlocks the master pattern that subjugates the surrogates, but also harbors the generation of "heretical rules." While pop thrives off tinkering with emergent technologies, it is worth dwelling on a particular example: namely, the recent "Godmother" project from musicians Holly Herndon and Jlin. As Herndon outlines, the "Godmother" song was generated by a custom AI, called Spawn, created with her partner Mat Dryhurst:

"Godmother" was generated from her [Spawn] listening to the artworks of her godmother Jlin, and attempting to reimagine them in her mother's [Herndon's] voice ... In nurturing collaboration with the enhanced capacities of Spawn, I am able to create music with my voice that far surpass [sic] the physical limitations of my body.²⁸

The project can be understood as a collaboration between an AI, an advanced vocal scientist (Herndon), and an advanced rhythm scientist (Jlin) in which the white artist's voice inhabits the exoskeleton of the black artist's rhythm. Herndon voice-sings Jlin's rhythm.

A cynical reading could map this onto a *Get Out*–style surrogacy, a white ghost inhabiting a black shell, with automation heralding and accelerating a new species of appropriation. And yet, as a consensual and transparent collaboration between two artists (and a programmer and an AI), this project is a constructive precedent and a potential prototype for the near future of machine music. Here, two artists share and proliferate their patterns through the medium of machine intelligence. Even more compelling, “Godmother” also seems to incubate a more intriguing model of surrogacy, with Spawn catalyzing a xeno-pattern that threatens to go beyond the patterns of its mothers, opening the promise of a golem that uses its human creators as a proxy in order to speak.

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12/13

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Steve Goodman (aka Kode9) is an artist, writer, and DJ. He founded the record labels Hyperdub in 2004 and Flatlines in 2019. His book *Sonic Warfare* was published in 2009 (MIT Press) and in 2019 he coedited *Audint-Unsound:Undead* (Urbanomic Press). In 2021, he founded Flatlines as a book imprint with its first publication \emptyset . His sound installations have appeared at, among other places, the Tate Modern, the Barbican, and CAC in Shanghai. He has produced three albums, two with the late vocalist The Spaceape, *Memories of the Future* (2006) and *Black Sun* (2012), and one solo, *Nothing* (2015).

1
"Science Fiction Capital," or "SF Capital," is a concept coined by Mark Fisher. See his article "SF Capital," 2001 <https://web.archive.org/web/20060716033638/http://www.cinestatic.com/trans-mat/Fisher/sfcapital.htm>.

2
Wendy Brown, "Wounded Attachments," *Political Theory* 21, no. 3 (August 1993).

3
Denise Ferreira da Silva, "1 (life) ÷ 0 (blackness) = & – & or & / &: On Matter Beyond the Equation of Value," *e-flux journal*, no. 79 (February 2017) <https://www.e-flux.com/journal/79/94686/1-life-0-blackness-or-on-matter-beyond-the-equation-of-value/>.

4
Da Silva, "1 (life) ÷ 0 (blackness)." Emphasis in original.

5
Neda Atanasoski and Kalindi Vora, *Surrogate Humanity: Race, Robots, and the Politics of Technological Futures* (Duke University Press, 2019), 10.

6
See <https://aksioma.org/cleaning.emotional.data>.

7
Wilfrid Sellars, *Science and Metaphysics: Variations on Kantian Themes* (Routledge, 1968), 5.

8
Sellars, *Science and Metaphysics*, 4.

9
The use of instance capsule networks and dynamic routing amongst algorithmic patterns called "convoluted neural networks" is an attempt to automate predictive vectors that start from the material receptivity of randomness across variations in order to expand predictive learning beyond set parameters. These variations are not simply read according to a given rule. Instead, the randomness around the patterns is enfolded in the interaction between algorithmic agents whose learning process leads to the composition and decomposition of concepts and objects that do not exist – a sort of productive imagination bringing together the supplemental information from noise within the information pattern.

10
Denise Ferreira da Silva, "Blacklight," in *Otobong Nkanga: Luster and Lucre*, ed. Clare Molloy, Philippe Pirotte, and Fabian Schöneich (Sternberg Press, 2017), 248.

11
Da Silva, "Blacklight," 251.

12

As Alexander Galloway reminds us, this is "not simply a world gone dark, such blackness is a world *without us*. Not simply a question of dying or growing old, such blackness means the leaving of being." *Laruelle: Against the Digital* (University of Minnesota Press, 2014), 187. Emphasis in original.

13
See Steve Goodman, "Exploring AI, Sound and the Golem in 'It,'" interview with Suzanne Livingston, in *More than Human* (Barbican, 2019).

14
See Steve Goodman, "IT," in *Spectres 3*, ed. François Bonnet (Shelter Press, 2021). See also Amir Vudka, "The Golem in the Age of Artificial Intelligence," *NECSUS*, Spring 2020 <https://necsus-ejms.org/the-golem-in-the-age-of-artificial-intelligence/>.

15
Along with Mark Fisher's "SF Capital," see Kodwo Eshun's "Further Considerations on Afrofuturism," *CR: The New Centennial Review* 3, No. 2 (Summer 2003).

16
Stanisław Lem, "Golem XIV," in *Imaginary Magnitude* (Mariner Books, 1985), 104.

17
Lem, "Golem XIV," 104–5.

18
Lem, "Golem XIV," 109.

19
Lem, "Golem XIV," 110.

20
Lem, "Golem XIV," 113.

21
Prager Tagblatt, September 23, 1935.

22
Kodwo Eshun, *More Brilliant than the Sun* (Quartet, 1998), 00(-001).

23
Kodwo Eshun, "The Kinematic Pneumacosc of Hype Williams: The Rhythm of Vision is a Dancer," in *Cinesonic: Cinema and the Sound of Music*, ed. Philip Brophy (Australian Film Television and Radio School, 2001), 53.

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Kodwo Eshun, "Abducted by Audio," *Abstract Culture*, no. 12, (1997): 11.

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Kodwo Eshun, "Visions of Rhythm in the Kinematic Pneumacosc of Hype Williams," in *Machine Times*, ed. Arjen Mulder and Joke Brouwer (V2_, 2000), 53.

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Eshun, "Abducted by Audio," 11.

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Benjamin H. Bratton, "The Black

Stack," *e-flux journal*, no. 53 (March 2014) <http://www.e-flux.com/journal/53/59883/the-black-stack/>.

28
Quoted in Trey Alston and Matthew Strauss, "Holly Herndon and Jlin Share New AI-Generated Song: Listen," *Pitchfork*, December 4, 2018 <https://pitchfork.com/news/holly-herndon-and-jlin-share-new-ai-generated-song-listen/>.